

THE IRISH BANKING CRISIS

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CASE DESCRIPTION

The 2007 financial crisis led to a steep decline in the supply of capital to organizations around the world. As liquidity dried up, countries such as Ireland with fragile and overextended credit environments, overpriced asset markets, and accommodative regulatory systems were vulnerable to the resulting shock waves. This case explores Ireland's economic and financial circumstances before and during the crisis, and its response to the crisis in the face of mounting pressure from the European Commission, the European Central Bank and the IMF for action that would help bring Ireland and other stressed euro zone countries back from the brink. At the close of 2010, Minister for Finance Brian Lenihan Jr. needed to decide whether to accept financial assistance from Europe and the IMF or have Ireland go it alone. The case has a difficulty level appropriate for masters' level or upper level bachelors' students in finance or economics. It is most effectively taught to students who have been exposed to macroeconomics and introductory finance. The case is designed to be taught in 1.5-2 class hours and should require 2-4 hours of outside preparation by students.

JEL: E44, G01, G21

KEYWORDS: Financial Crisis, Property Bubble, Banking Crisis, Government Policy

INTRODUCTION

The US financial crisis that began in August 2007 led to a steep decline in the supply of capital to financial institutions and corporations around the world resulting in deteriorating economic conditions on a global scale. The crisis began with a huge growth in the market for subprime mortgages and a U.S. credit boom and housing bubble over the 2002-2007 period. It was aided by the emergence of a global savings glut within high exporting, low consumption countries, notably China, that contributed to low, long-term interest rates worldwide. These factors were amplified by structural weaknesses in the world's financial regulatory system, and by the growth in leverage, the dependence on short-term funding, the use of risky structured financial instruments, and poor risk management in major financial firms.

While the crisis originated in the world's most sophisticated financial centers with the most highly developed markets and institutions, it consequently eroded the confidence of issuers and investors worldwide in the system's ability to maintain credit flows and economic stability. As liquidity dried up, countries such as Ireland with fragile and overextended credit environments, overpriced asset markets, lax mortgage lending standards, and weak regulatory systems were particularly vulnerable to the resulting shock waves.

At the close of 2010 when important decisions needed to be made, the key decision maker was Brian Lenihan Jr., the Irish Minister for Finance. Lenihan needed to decide, and recommend to Brian Cowen, the Prime Minister, whether Ireland should attempt to resolve the crisis and store market confidence and economic growth on its own, or surrender its fiscal sovereignty by accepting financial assistance from European Commission, the European Central Bank and the IMF (the troika).

The case begins with background information regarding the country and its people, the political situation at the time of the crisis, the Irish economy, and its central bank. This is followed by an exposition of the property explosion that led to the credit crisis and a discussion of its impact on the Irish banking system.

The role of the Irish financial regulatory system in the crisis is explored, along with the steps taken by both the Irish government and the European community to resolve the crisis. The case concludes with the question of whether the Irish government, facing a deteriorating economic and financial situation, would agree to accept financial assistance from Europe and the IMF or have Ireland go it alone and potentially undermine the very existence of the euro.

IRELAND

The Republic of Ireland occupies 70,282 sq. km. (27,136 sq. mi.) of the island of Ireland, which has a total area of 84,421 sq. km. It is located in north-west of the European continent and lies west of the United Kingdom across a narrow strip of the Irish Sea.

In 2008, as shown in Table 1 below, the island had a population of 4.4 million having grown from 3.8 million in 2001 due to strong internal population growth and sizable net migration inflows. The Irish represent the main ethnic group and the main languages spoken are English and Gaelic. The literacy rate is 99%. The island's labor force of 2.1 million people is divided among services 74%, industry 21%, and agriculture 5%. Approximately 75% of all households live in owner-occupied housing.

GDP per capita rose from €30,396 in 2001 to €40,702 in 2008, the fifth highest per capita GDP among OECD countries. Ireland enjoys relatively low taxes, an educated workforce, high average life expectancy, low infant mortality rates, and high internet and communications usage.

Table 1: Ireland Social Statistics, 2008

Population (millions)	4.4
GDP per capita (euros)	40,702
Taxes on the average worker (% of labor cost)	22.9
Life expectancy – Males (years)	77.4
Life expectancy – Females (years)	82.1
Infant mortality (per 100 live births)	3.1
Internet connections (% of households)	62
Mobile phone ownership (% of population)	121

This table shows select social statistics for Ireland in 2008. GDP per capita was €40,702 and taxes on the average worker represented 22.9% of all labor costs. Life expectancy is relatively high for both men (77.4 years) and women (82.1 years), and the infant mortality rate is only 3.1 out of a 100 live births. Sixty-two percent of households have internet connections, and the Irish population own multiple cell phones. Sources: Central Bank of Ireland, IMF, OECD Factbook 2010

Ireland entered the European Union, a zone for the free movement of goods, services, capital and people in 1973. The country became one of the original 11 members of the European Monetary Union (Eurosystème) in 1999 and the euro has been the official currency of Ireland since that time.

The Political Situation

The government is a Parliamentary system composed of an executive branch with a president who serves as head of state in a largely ceremonial role, and a prime minister who acts as the head of the government; a legislative branch with a bicameral national parliament: the House of Representatives (Dáil Éireann) and Senate (Seanad Éireann); and a judicial branch composed of a Supreme Court, Court of Criminal Appeal, High Court, Circuit Court, and District Court.

Irish politics remain dominated by two political parties. Fianna Fail historically is Ireland's largest political party and has dominated the government since the 1930's. Fine Gael is Ireland's smaller second party and has held the top government positions only intermittently over the years. Labour, Sinn Fein, the Greens, and the Progressive Democrats are the other significant parties. In May 2007, national elections brought the Fianna Fail party back to power in a coalition government with the Greens and Progressive Democrats for an unprecedented third 5-year term and its leader Bertie Ahern for a third term as the Prime Minister.

Ahern's third term tenure was short lived, however. Under increasing pressure due to allegations of personal financial irregularities and ethics violations, and amid signs of severe stress in the Irish economy and financial markets, Ahern resigned as the PM and party leader in May 2008. Brian Cowen, the Deputy Head of Government, was elected by the Fianna Fail party as the new party leader, and Ireland's President appointed Cowen as the new PM. Cowen appointed Brian Lenihan Jr. as his Minister for Finance. Lenihan was trained in law at Trinity College, Dublin and Cambridge University, England and became a barrister in private practice and lecturer in law at Trinity College. He was a member of a prominent Irish political dynasty that included legislators and cabinet ministers going back to the mid 1950's. When his father, Brian Sr. died in 1996, Brian Jr. ran successfully for his Dáil seat in Dublin West.

In 2002, Lenihan became a junior minister at the Department of Health, with responsibility for children, and in 2007, he was promoted to a full ministerial portfolio as Minister for Justice. In 2008, Cowen appointed him Minister for Finance just in time for the start of the global financial crisis and an Irish banking crisis.

The Irish Economy

Ireland is a small, trade-dependent economy with a nominal GDP of €160 billion in 2009. Services represent 69% of GDP, industry 29% and agriculture 2%. International trade in 2010 amounted to \$117 billion in exports (excluding services), and \$60 billion in imports (excluding services). Major suppliers to Ireland include Great Britain and Northern Ireland 30%, U.S. 18%, France 5%, Germany 7%, China 6%, and Japan 2%. As a member of the European Monetary Union (EMU), Ireland's currency is the euro.

After a long period of economic stagnation and emigration, Ireland enjoyed strong economic growth over the 1994-2006 period and became known internationally as the "Celtic Tiger". As shown in Table 2 below, annual growth in real GDP was strong and the unemployment rate fell from 12.1% in 1995 to roughly 4.5% in the early 2000's. Consumer price inflation remained close to the euro area average during the period except for a brief, four year period from 2000 to 2003 when prices rose above those in the euro area. Once Ireland became a member of the European Monetary Union (EMU) in 1999, the country's nominal interest rates became set by the ECB at a lower level for the benefit of the larger euro area. Inflation in Ireland became difficult to control and real interest rates sometimes turned negative, providing a strong incentive to borrow while raising asset prices. On the positive side, Ireland's overall growth led to a dramatic decline in government debt from €74 billion in 1996 (74.3% of GDP) to €25 billion in 2006 (24.9% of GDP).

In the period prior to 2000, this growth was driven by a progressive economic strategy based on inward foreign investment and exports of high value products such as microchips, software and pharmaceuticals. Ireland's economic model led to a high level of international competitiveness and the country's success reflected a number of attractive features.

Table 2: Ireland: Selected Annual Statistics, 1995-2010 (Annual change unless otherwise noted)

Year	Real GDP	Consumer Prices ¹	Unemployment Rate	Government Debt (% GDP)
1995	9.5	--	12.1	83.6
1996	7.7	2.1	11.5	74.3
1997	10.7	2.1	9.8	65.1
1998	8.6	2.2	7.4	55.1
1999	11.1	2.5	5.6	49.3
2000	9.9	5.2	4.3	38.3
2001	5.9	4.0	3.9	35.4
2002	6.4	4.7	4.4	32.1
2003	4.5	4.0	4.7	31.1
2004	4.7	2.3	4.5	29.4
2005	6.2	2.2	4.4	27.3
2006	5.4	2.7	4.4	24.9
2007	5.6	2.9	4.6	25.0
2008	-3.0	3.1	6.3	44.4
2009	-7.0	-1.7	11.8	65.5
2010	-0.4	-1.6	13.6	92.5

Table 2 shows select economic statistics for Ireland over the 1996-2010 period: real GDP, consumer price inflation, unemployment rate, and government debt as a percent of GDP. The data show a relatively strong period of growth and economic performance until the crisis in 2008.

Source: IMF. ¹Harmonized Index of Consumer Prices, average annual

These included a stable macroeconomic and political environment; a 12.5% corporate tax rate for domestic and foreign firms; a flexible, English-speaking work force; cooperative labor relations; high productivity, pro-business government policies; a transparent judicial system; strong intellectual property protection; proximity to European markets, and the pulling power of existing companies operating successfully that attracted others to locate near them.

Immigration expanded to take advantage of the increasing job opportunities and foreign workers, mostly from the new EU member states, increased the country's population. Despite this surge in population, per capita income levels increased 122% over the 1994-2006 period.

The Central Bank of Ireland

The Central Bank of Ireland was established in 1943 and became a founding member of the Euro system in 1999. The Euro system comprises the European Central Bank (ECB) and the national central banks of the countries that have adopted the euro. The primary monetary policy objective of the ECB is the maintenance of price stability in the euro area. As a member of the Eurosystem, the Central Bank of Ireland is responsible for maintaining price stability in Ireland through the implementation of ECB decisions on monetary policy. Thus, the Central Bank of Ireland does not determine and implement its own monetary policy.

The Governor of the Central Bank of Ireland is a member of the ECB Governing Council, which sets interest rates for the euro area, and thus has direct input into monetary policy decisions and other policy areas of the ECB. The Governor of the Central Bank of Ireland is appointed by the President of Ireland for a seven-year term.

After joining the Euro currency union in 1999, Ireland enjoyed relatively low nominal interest rates set by the ECB. The ECB's primary goal of price stability is defined as an inflation level just below 2%, and upon creation in 1999, the bank set its overnight policy rate at 3% as a benchmark to achieve its price stability mandate. This rate was raised gradually to 4.25% in June 2000 and remained at that level until October 2008, a month after the collapse of Lehman, when it was reduced to 3.25%. As the crisis deteriorated, the ECB lowered the policy rate to 1% in May 2009 and kept the rate at that level throughout 2010.

For comparison, the U.S. Fed had been raising its federal funds policy rate during the dot.com boom of the late 1990's and it peaked at 6.5% in May 2000. The subsequent U.S. recession saw a gradual lowering of the rate to 1% in June 2003 where it remained until June 2004 when it was gradually raised to 5.25% by June 2006. Subsequent federal funds rate decreases in response to the U.S. financial crisis resulted in a target rate of 0-.25% in December 2008, with Fed projections for an equally accommodative monetary policy through the end of 2015. Table 3 shows that during the critical 2001 through 2005 period of rapid economic growth in Ireland, when house purchase loan rates were declining (Table 4) the ECB target policy rate was actually above the U.S. target federal funds rate, except for May 2001 when the U.S. target rate was 0.25% higher than the ECB target rate

Table 3: ECB Target Policy Interest Rate with Corresponding U.S. Target Federal Funds Rate (In Percent)

	ECB Meeting Dates	ECB	U.S.	
1999	1-Jan	3.00	4.75	
	22-Jan	3.00	4.75	
	9-Apr	2.50	4.75	
	5-Nov	3.00	5.25	
2000	4-Feb	3.25	5.75	
	17-Mar	3.50	5.75	
	28-Apr	3.75	6.00	
	9-Jun	4.25	6.50	
	1-Sep	4.25	6.50	
	6-Oct	4.25	6.50	
	2001	11-May	4.25	4.50
31-Aug		4.25	3.50	
18-Sep		4.25	3.00	
9-Nov		4.25	2.00	
2002	6-Dec	4.25	1.25	
2003	7-Mar	4.25	1.25	
	6-Jun	4.25	1.25	
2005	6-Dec	4.25	4.00	
2006	8-Mar	4.25	4.50	
	15-Jun	4.25	5.00	
	9-Aug	4.25	5.25	
	11-Oct	4.25	5.25	
	13-Dec	4.25	5.25	
	2007	14-Mar	4.25	4.50
		13-Jun	4.25	4.50
	2008	9-Jul	4.25	2.00
		8-Oct	4.25	1.50
		12-Nov	3.25	1.00
10-Dec		2.50	1.00	
2009	21-Jan	2.00	0 - 0.25	
	11-Mar	1.50	0 - 0.25	
	8-Apr	1.25	0 - 0.25	
	13-May	1.00	0 - 0.25	

Table 3 shows the European Central Bank (ECB) target policy rate versus the corresponding US target policy rate, the federal funds rate, over the 1999-2009 period. It shows that during the critical 2001 through 2005 period of rapid economic growth in Ireland, when house purchase loan rates were declining the ECB target policy rate was actually above the U.S. target federal funds rate, except for May 2001 when the U.S. target rate was 0.25% higher than the ECB target rate. Source: ECB, U.S. Federal Reserve Board

The Property Explosion

By 2000, the economic boom in Ireland and the confidence it generated led to a substantial growth in financial markets and residential and commercial property markets. Residential property prices rose over 400% during the 1994-2006 period as supply was unable to keep up with demand for owner-occupied housing and for the rapidly growing buy-to-lease market. Commercial property prices remained strong into 2007. Aggressive bank lending fueled both demand by homebuyers and speculative building by

developers. The government's favorable tax treatment of housing, particularly compared to other EU countries, helped to fuel the expansion. For example, households are permitted a tax deduction on mortgage interest payments, and enjoy limited taxes on capital gains from the sale of residential property. As a result, property prices, both real and nominal, rose more rapidly in Ireland in the decade leading up to 2007 than in any other developed economy in the world. Table 5 shows average annual home prices in Ireland over the 2000-10 period in euros. The average price of new construction in the country increased 91% from €169,191 in 2000 to a high of €322,634 in 2007, while second-hand home prices rose 98% from €190,550 to €377,850 over the same period. New home and second-hand construction in Dublin, the capital, increased 88% from €221,724 in 2000 to €416,225 in 2007, and second-hand home prices rose 107% from €247,039 in 2000 to a high of €512,461 in 2006.

Table 4: Home Purchase Lending Rates (In percent per annum)

Year End	House Purchase Loan Rates
1999	3.69-4.39
2000	5.59-6.15
2001	4.25-4.75
2002	3.85-4.70
2003	3.30-3.60
2004	3.25-3.60
2005	3.32-3.78
2006	4.49-5.03
2007	5.10-5.53
2008	3.75-5.79
2009	2.45-5.90

Table 4 shows select home purchase lending rates in Ireland over the 1999-2009 period. House purchase loan rates were declining during the period of rapid economic growth in Ireland from 2001 through 2005, when the ECB target policy rate was largely above the U.S. target federal funds rate. Sources: CBI Quarterly Bulletin Winter 2000, Winter 2001, Winter 2002, Winter 2003, Autumn 2004, July 2005, July 2007, April 2008, April 2009

Table 5: House Prices in Ireland and Year-to-Year Percentage Change: 2000-2010 (Prices in euros)

	New Construction		Second-hand		New Construction (Dublin)		Second-hand (Dublin)	
	Average price	% Change	Average price	% Change	Average price	% Change	Average price	% Change
2000	169,191	13.9%	190,550	16.7%	221,724	14.6%	247,039	17.3%
2001	182,863	8.1%	206,117	8.2%	243,095	9.6%	267,939	8.5%
2002	198,087	8.3%	227,799	10.5%	256,109	5.4%	297,424	11.0%
2003	224,567	13.4%	264,898	16.3%	291,646	13.9%	355,451	19.5%
2004	249,191	11.0%	294,667	11.2%	322,628	10.6%	389,791	9.7%
2005	276,221	10.8%	330,399	12.0%	350,891	8.8%	438,790	12.6%
2006	305,637	10.6%	371,447	12.4%	405,957	15.7%	512,461	16.8%
2007	322,634	5.6%	377,850	1.7%	416,225	2.5%	495,576	-3.3%
2008	305,269	-5.4%	348,804	-7.7%	370,495	-11.0%	444,207	-10.4%
2009	242,033	-20.7%	275,250	-21.1%	260,170	-29.8%	345,444	-22.2%
2010	228,268	-5.7%	274,125	-0.4%	251,629	-3.3%	344,891	-0.2%

Table 5 shows the rapid rise of average property prices in Ireland and the year-to-year percentage change over the period 2000-2010. The average price of new construction in the country increased 91% from €169,191 in 2000 to a high of €322,634 in 2007, while second-hand home prices rose 98% from €190,550 to €377,850 over the same period. New home and second-hand construction in Dublin, the capital, increased 88% from €221,724 in 2000 to €416,225 in 2007, and second-hand home prices rose 107% from €247,039 in 2000 to a high of €512,461 in 2006. Sources: Department of Finance Monthly Economic Bulletin: March 2001, December 2002-2011

The construction sector accounted for approximately one-quarter of the new jobs created over this period. The share of the workforce engaged in construction increased from 7% in the mid-1990's to over 13% by 2007 (Honohan, 2009). As a result, Ireland went from getting 4-6% of its national income from home

building in the 1990’s to approximately 15% in 2006-7, at the peak of the property bubble, with an additional 6% from other construction (excluding road construction). This construction boom led to a significant increase in the demand for labor. Labor bottlenecks emerged in construction and public services, and wages rose throughout the economy putting pressure on Ireland’s wage competitiveness. Over the 1996-2006 period, the average annual growth rate of real disposable income per capita in Ireland grew at an average annual rate of 9.1% compared to 4% in EU-15 countries (Malzubris, 2008). This growth in income generated a return of residents who had emigrated in past years, and a substantial increase in tax revenue and government spending (Kelly, 2009).

However, Ireland’s small, open economy was vulnerable to external shocks. With the onset of the global financial crisis in 2007, housing prices and new construction began to decline exerting a drag on GDP growth. The Irish economy’s competitiveness began to erode. The country entered into a recession in 2008, with GDP falling by 3.5% in 2008, 7.6% in 2009, and 1% in 2010. The real estate market and construction industry collapsed and unemployment rose to double-digit levels. Deflation, a decline in credit availability, lower business investment outlays, weak domestic spending, and lower consumer confidence contributed to bleak economic conditions. A deepening government budget deficit ensued, approximately 14.2% of GDP in 2009, as revenues from property transactions and the value-added tax declined while welfare costs rose. Gross public debt increased from 25% of GDP in 2006 to almost 93% of GDP in 2010. See Table 2 above. As a member of the euro zone, Ireland could not be expected to devalue its currency in order to improve its international competitiveness. Moreover, as the data in Table 6 demonstrate, the euro rose steeply in value against the U.S. dollar over the 2002-2008 period, leading to a series of trade deficits. Ireland’s property bubble only made the situation graver. Ireland’s internal competitive devaluation exhibited by falling prices and wages may have been considered a positive development. But, the “Celtic Tiger” had lost its roar.

Table 6: U.S. Dollar/Euro Foreign Exchange Rate: 1999-2011

Date	Value ¹
January 1, 1999	1.0653
January 1, 2000	0.9232
January 1, 2001	0.8952
January 1, 2002	0.9454
January 1, 2003	1.1321
January 1, 2004	1.2438
January 1, 2005	1.2449
January 1, 2006	1.2563
January 1, 2007	1.3711
January 1, 2008	1.4726
January 1, 2009	1.3935
January 1, 2010	1.3261
January 1, 2011	1.3931

Table 6 shows the appreciation of the euro against the dollar over the 2000-2008 period, which hurt Irish exports. As a member of the European Monetary Union (EMU), Ireland did not have a national currency that it could devalue to boost its competitiveness in international markets.
 Source: Federal Reserve Bank of St. Louis, FRED Economic Data. ¹Annual average of daily figures

THE IRISH CREDIT CRISIS

What had started as a real economic boom in the 1990’s turned into a property bubble fueled by a huge increase in bank lending that ultimately led to the country’s credit crisis. A high percentage of the loans went to property developers to finance housing and commercial projects, homebuilders and homebuyers. In 1997, Irish banks were lending €10 billion (2009 prices) to developers and by 2008, the value of this lending had risen to eleven times its 1997 value. Similarly, in 1997, the banks were lending €20 billion (2009 prices) in mortgages and by 2008, the value of this lending had risen to seven times its 1997 value. Household indebtedness in Ireland was among the highest in the euro area at 81% of GDP, much of it

secured on property (Malzubris, 2008). The banks, in turn, were highly vulnerable to any decline in property prices.

The rise in home and commercial property prices over the 1995-2000 period was significantly faster than earnings. In 1995 the average price of a new or pre-owned home in Ireland cost an amount equal to four years' average industry earnings. By 2006, new home prices had risen to ten times earnings and pre-owned Dublin homes sold for seventeen times earnings. As the number and size of the mortgages grew and home prices soared, a feedback loop developed between mortgages and prices with larger mortgages driving up home prices. With rising collateral values, banks were incentivized to grant even larger mortgages thereby encouraging developers to build even more homes. Thus, with home supply fixed in the short run and with home prices increasing as the size of mortgages increased, Ireland's economy was now being driven by the easy availability of credit rather than by its fundamental international competitiveness (Kelly, 2009).

In a classic bubble, buyers come to believe that a commodity's prices can only rise and are thus willing to take on increasing amounts of debt in order to take advantage of the rising prices. When borrowers become reluctant to take on additional levels of debt, or when the commodity's supply, such as housing stock, begins to catch up with demand, both borrowing and commodity prices start to decline. In the Irish situation, domestic lending to property borrowers declined significantly and home prices continued to decline while unemployment continued to rise.

The Irish Banking System

Ireland had seven major national banks and credit institutions as well as a number of international banks with branches across the country. The two largest Irish banks as of June 2010 were the Bank of Ireland with assets of €256.98 billion and Allied Irish Banks with assets of €249.26 billion. Other large Irish banks and credit institutions were Anglo Irish Bank, EBS Building Society, Irish Nationwide Building Society, Irish Life and Permanent, and the Postbank Ireland Limited.

As Ireland became increasingly financially open, and as the global financial services industry trended toward liberalization, innovation, competition and consolidation, the Irish banking system became increasingly exposed internationally. At the same time, however, the Irish domestic banking system remained relatively concentrated, with the Bank of Ireland, Allied Irish Banks, and Anglo Irish Bank representing about 45 percent of total banking assets but nearly 80 percent of the domestic retail market (Duggar and Mitra, 2007).

Ireland's banks began to change their operations after the country joined the Euro currency area in 1999 and continued to adapt throughout the period up to 2008. The banks transitioned from a business model dominated primarily by deposit funding to one focused on short-term borrowing in international wholesale markets awash with low cost funds due partly to a global savings glut. They issued short-term euro-denominated bonds and sold them to euro area banks in the interbank market, thus incurring no exchange rate risk. This allowed Irish banks to extend long-term credit in the property markets at lower cost, up to 35 years or longer for some mortgages. In addition, since the interest rate on many of these mortgages was set as a fixed markup over low European Central Bank (ECB) rates, there was little opportunity for Irish banks to recover through higher lending spreads. Net indebtedness of Irish banks to the rest of the world totaled 10% of GDP in 2003 and rose to 60% of GDP in 2008 (Honohan, 2009). In addition, non-financial lending increased from 60% of GDP in 1997 to over 200% of GDP in 2008, the highest level of any euro zone country. Total bank lending by 2008 had risen to 250% of GDP while deposits had risen only to 125% of GDP. By 2008, total assets in large Irish financial institutions were 4.4 times Ireland's GDP (Dwyer, 2011).

Irish Banks and the Crisis

As shown in Table 7 below, over the 1999-2008 period the liability side of Irish banks' balance sheets changed dramatically. Liabilities grew more than 650% from €78.5 trillion to €514 trillion, with a sharp drop in capital and reserves from 8.9% to 3.8% of total liabilities. In 1999 the deposits of the Irish public accounted for approximately 45% of all bank liabilities, and deposits from Irish and non-Irish credit institutions amounted to another 28%. By 2008, Irish customer deposits had fallen to 22% of total liabilities, while deposits from Irish and non-Irish credit institutions rose to over 46%, and Irish and non-Irish debt securities accounted for another 12.2% of liabilities. Non-Irish interbank borrowing and bond issuance had become large and fast growing liabilities. Credit was flowing into Ireland and contributing to the housing and construction bubble and, as discussed below, regulatory authorities took little action to curtail this credit inflow.

Mortgage borrowing peaked in the third quarter of 2006 and the number of unsold housing units began to rise by mid-2007 (Kelly, 2009). Falling home prices and a decline in demand for commercial properties, well before the start of the global financial crisis, led to an increase in the default rate on loans to property developers, builders and homeowners. Irish banks were forced to take losses against many of these loans. As a result, share prices of Irish financial services institutions, which had risen in value three times faster than overall equity prices in Ireland over the 2000-2007 period, began to decline in March 2007.

Table 7: Composition of Irish Banking Liabilities, 1999 and 2008 (Numbers in Millions of Euros)

	Dec-99	Dec-08	Dec-99	Dec-08
Deposits from non-Irish credit institutions				
Deposits from Irish customers	15,542	149,465	19.8%	29.1%
Deposits from Irish credit institutions	35,142	114,235	44.8%	22.2%
Other liabilities	6,472	87,196	8.2%	17.0%
Debt securities, non-Irish	9,671	57,227	12.3%	11.1%
Deposits from non-Irish customers	71	43,574	0.1%	8.5%
Debt securities to Irish residents	4,336	23,415	5.5%	4.6%
Capital and reserves	241	19,092	0.3%	3.7%
	6,990	19,746	8.9%	3.8%
	78,465	513,950	100.0%	100.0%

Table 7 shows the composition of Irish banking liabilities over the 1999-2008 period. Liabilities grew more than 650% from €78.5 trillion to €514 trillion, with a sharp drop in capital and reserves from 8.9% to 3.8% of total liabilities. Moreover, the period also saw a shift in the composition of Irish banks' balance sheet from traditional deposit-based funding to international borrowing. Deposits from Irish customers decreased from 44.8% of all bank liabilities in 1999 to 22.2% in 2008, while deposits from non-Irish credit institutions increased from 19.8% of all bank liabilities in 1999 to 29.1% in 2008. Source: Central Bank and Financial Services Authority of Ireland. Table C4, Quarterly Bulletin

This pattern is evident in the share prices of three large Irish banks which fell sharply relative to overall stock prices in Ireland and greater than other Euro-zone countries. The Bank of Ireland, had a peak share price of €18.65 in February 2007 and a share price of €0.12 in March 2009; Allied Irish Banks had a peak share price of €23.95 in February 2007 and a share price of €0.28 in March 2009, and Anglo Irish Bank had a peak share price of €17.53 in February 2007 and a share price of €0.12 in March 2009. Anglo Irish Bank suffered a market run in September 2008 in the midst of the collapse of Lehman Brothers and tightened access to wholesale funding. The global financial crisis had now arrived in Ireland. Irish banks found it difficult to roll over their foreign debt. Their liabilities to international bondholders rose and foreign lending sources dried up. As a result, Irish banks turned increasingly to borrowing from the ECB and from the inter-bank market (Kelly, 2009). As Irish property values declined and as households and firms deleveraged, and as depositors switched their savings to stronger non-Irish banks, Irish banks experienced a loss in deposits and a reduced ability to extend new credit to the Irish economy even if demand were to rise.

By 2009, loans from the ECB became a regular source of credit on bank balance sheets. During the early years of the financial crisis, the ECB conducted liquidity-providing longer-term refinancing operations with a maturity of up to 12 months that allowed euro zone banks to borrow with liberalized collateral

requirements at a 1% interest rate. As this enhanced facility began to wind down at the end of 2009, Irish banks faced higher borrowing costs as wholesale funding tightened during the crisis, thus making it difficult to fund mortgages paying only 3-4% interest.

The Irish banks' problems on the liability side of their balance sheets, combined with their lack of diversification on the asset side, made Irish banks highly vulnerable to the global liquidity crisis. Assets were concentrated in speculative development loans, most of which the banks held on their books along with the credit risk, rather than being securitized and distributed to investors along the lines of U.S. banks at the time. Significant mortgage defaults and losses on business loans due to the drop in home prices and rise in unemployment resulted in an erosion of the banks' core equity capital. This needed to be addressed, and soon.

FINANCIAL REGULATION IN IRELAND

In 2002, the government of Ireland transitioned to a new regulatory environment. It created, for the first time, a single regulatory authority for financial services housed within the Central Bank of Ireland. The role of the new entity, the Irish Financial Services Regulatory Authority (IFSRA), was to coordinate, integrate and oversee the supervision of Irish financial institutions such as banks, insurance and securities companies, and to protect consumer interests as they relate to financial institutions. While operating within the Central Bank of Ireland, however, the IFSRA had its own Chief Executive, Chairperson, Board and staff in order to carry out its functions independently. The new, combined entity was called the Central Bank and the Financial Services Authority of Ireland (CBFSAI).

The economic climate that led to the pre-crisis rise of the Celtic Tiger included a weak financial regulatory regime from both micro-prudential and macro-prudential perspectives. Irish regulators adopted a "principles-based" and highly deferential regulatory approach to the banking industry, including a heavy reliance on the banks' own internal risk models. Connor et.al. (2010) reported on a number of cases of regulatory forbearance during the pre-crisis period, including instances where questionable or fraudulent accounting practices were ignored or worse, condoned.

More importantly, the regulators may have missed two warning signs that systemic risk was building up in the banking system. One was the rapid, higher than average balance sheet growth over the 1998-2007 period. The other was the highly concentrated and high-risk nature of the banking sector's loan activities to property developers. For example, Irish Nationwide, a large bank with a mission to provide credit to retail customers, aggressively built up a property development loan portfolio to an amount equal to 80% of its outstanding loan funds (Connor et al., 2010). Also, according to Kelly Irish regulators failed to contain the hyper-aggressiveness of Anglo-Irish Bank which grew from a small merchant bank in the 1990's to one of the largest banks in Ireland by 2007, forcing other large Irish banks to match their aggressive growth in order to survive (Kelly, 2009). Finally, weak bank stress testing criteria and the lack of supervisory follow-through and decisive action contributed to the emerging crisis. For example, regulators took no action even when they identified serious weaknesses in need of corrective action such as the lack of reliability and rigor in bank risk-management models.

Throughout the highly competitive, market share driven banking sector, lending standards were loosened substantially. In addition to high income multiples, lengthy maturities and interest only periods, the credit quality of new residential mortgages declined precipitously over the pre-crisis period. The percent of mortgages with high loan-to-value (LTV) ratios rose substantially. By 2006, two-thirds of loans to first time buyers had LTV ratios greater than 90% and one-third had LTV ratios of 100% (Honohan, 2009). Moreover, as the number of interest only loans grew, the regulators did not limit the amount of debt that homeowners may amass in purchasing homes, nor did they curtail the non-collateralized loans banks made to wealthy developers, written against "personal guarantees" in the event of a default. During this

period, the CBFSAI took only a weak step to reduce the decline in lending standards. The regulator increased to 100% the risk-weight on the portion of a residential mortgage that was written above an 80% LTV level (Connor et al., 2010).

The Rating Agencies Make Their Move

As the situation deteriorated in Ireland, the rating agencies (Moody's, S&P, and Fitch) punished both the banks and Irish government bonds. Throughout the crisis, the rating agencies downgraded the largest banks in Ireland several notches, and by early 2011, their grades had been reduced to speculative and near speculative levels. The downgrade of Anglo Irish Bank was particularly severe, resulting in an S&P rating of B- by February 2011. Irish depositors withdrew €18.5 billion from their bank accounts in 2010 alone, approximately 10% of total bank deposits. Irish government bonds fared no better. In 2010, S&P downgraded Irish 10 year bonds from AA to A-, a very low investment grade. By the end of the year, borrowing costs had soared to approximately 9.5%, about three times the rate paid by AAA rated Germany.

THE GOVERNMENT'S RESPONSE

The government had become increasingly dependent on the tax revenue generated by the property sector, and provided a number of tax incentives to property investors in hotels and to investors in homes in designated rural areas. When Lenihan took over as Minister for Finance in 2008, in response to the global financial crisis and the ensuing Irish banking crisis, he wanted to reassure the public that Irish banks were healthy. He told *Six One News* in September 2008 "Our financial sector is sound and we are determined to ensure that continues". Likewise, he wanted to reassure financial markets that the government was committed to fiscal discipline. Over a period of fourteen months, he proposed three increasingly austere budgets that cut both capital expenditures and operational spending across many programs. The budgets included cuts in pay for public service workers and allocations for social welfare programs, while reinstating university fees and raising excise taxes and income taxes on higher income workers. The ensuing recession led to higher unemployment, close to 14% in 2010. In November 2010, Lenihan introduced a four-year plan to stabilize the economy by 2014 which included even further cuts in social welfare programs, cuts in the minimum wage, and an increase in the value added tax. Demonstrators took to the streets to protest the severe austerity measures and several coalition members resigned from the government. Among European governing circles, however, Lenihan and the Irish government were viewed as decisive and courageous for making tough fiscal decisions.

The government took additional steps to avoid a collapse of the banking system and ensure investors of the banking sector's liquidity and strength. In September 2008, as a supplement to the limited deposit insurance offered by the government, 90% of €20,000, the government guaranteed all the retail and corporate deposits, interbank deposits, covered bonds and senior debt of six major Irish banks and credit institutions. Lenihan assured the public again on *Six One News* that "there will be no exposure to the taxpayer on this". The guarantee created a government contingent liability equal to 200% of GDP, and essentially converted private losses into public obligations. With Irish creditworthiness in international credit markets at a low point, the cost of credit default swaps on Irish government debt increased 300 basis points between September 2008 and January 2009 (Connor et al., 2010).

Despite the government guarantee of the liabilities of Irish banks, the government recognized that the banks would need recapitalization to remain operating. In February 2009, the government directly injected equity capital into the two largest banks, Allied Irish Banks and the Bank of Ireland, in the form of a purchase of preferred shares amounting to €3.5 billion each. These banks, as well as other Irish banks, sought to raise private capital by selling some of their assets including overseas loan portfolios and

businesses. Anglo Irish Bank, however, was facing a much more serious liquidity crisis in early 2009, unable to roll over its foreign borrowings and short of collateral to refinance at the ECB. The government nationalized the bank in January 2009, injecting €4 billion, and took majority control (93%) in December 2010. The government set aside approximately €35 billion to recapitalize the other banks as the crisis progressed (Enrich, 2010, Brown and Hudson, 2011).

During this period, however, Lenihan was continuing his positive message. In February 2009, he stated on the weekly TV program, *The Week in Politics*, that “We are now going to commit an investment for a definite return to the taxpayer. This is not bailing out the banks. This is a commercial investment for the state...”

The National Asset Management Agency

In April 2009, Lenihan announced the creation of the National Asset Management Agency (NAMA), a “bad bank” which would buy, at a discount, the riskier performing and non-performing land, property development, and commercial loans from banks. NAMA would purchase approximately €80 billion in assets and manage them with the aim of achieving the best possible financial return over the long term (7-10 years). This would cleanse the balance sheets of the most systemically important banks of risky, difficult to value loans and keep their equity capital from deteriorating further. Perhaps more importantly, the balance sheet restructuring would enable the banks to access funds in international financial markets and return to lending thus stabilizing the Irish economy and financial system. NAMA operates under the aegis of Ireland’s National Treasury Management Agency and is overseen by a seven member Board appointed by the Minister of Finance and managed by a Chief Executive.

By the end of 2011, NAMA had acquired €74 billion in property loans from five participating institutions for a total of €31.8 billion, an average discount of 57% from book value. See Table 8. The purchases were made through the issuance of government securities or NAMA-guaranteed securities that pay a floating rate of interest based on the cash flow, i.e. the interest due, from the acquired assets. The participating banks could use these securities as collateral against loans from the ECB or from market counterparties. By late 2009, Lenihan was convinced that Ireland was on the road to recovery. He told *Six One News* in December 2009 “The worst is over, we’ve turned a corner”.

Central Bank Reorganization

On the regulatory front, in the aftermath of the financial crisis the government passed the Central Bank Reform Act of 2010, which created a single consolidated organization – the Central Bank of Ireland – with responsibility for both central banking and financial regulation of banks, building societies and other designated credit institutions in Ireland. The new structure replaces the Central Bank and Financial Services Authority of Ireland with its two component entities – the Central Bank and Financial Regulator – each with its own responsibilities and governance structure.

The reorganized bank is headed by a 10 member Commission, chaired by the Governor. The Governor, Patrick Honohan since 2009, is supported by a Deputy Governor for Central Banking, a Deputy Governor for Financial Regulation, and a Chief Operations Officer. The main goals of the reorganized Central Bank, in addition to price stability, are to contribute to financial stability both in Ireland and across the euro area through macroprudential oversight, including monitoring overall liquidity for the banking system; to ensure proper and effective microprudential regulation of financial institutions and markets; and to protect customers and investors.

EUROPE TO THE RESCUE

The Maastricht Treaty that created the European Monetary Union (EMU) in 1992 allowed Euro-zone countries to set their own fiscal policy. Subsequent to joining the EMU, a number of Euro-zone countries such as Ireland, Italy, Greece, Portugal, and Spain ran high budget deficits, incurred high debt loads and issued a large amount of bonds to finance the debt. The interest payments on the debt added to their rising budget deficits. These countries were unable to devalue their currencies or monetize their debt, and bond yields reached unsustainable levels when investors began to lose confidence in their ability to repay the debt. By early 2010, interbank lending among European banks was drying up. Europe needed to take action. European Union finance ministers together with the IMF created the European Financial Stability Facility (ESFS) in May 2010 in order to safeguard financial stability through financial assistance to euro zone countries. The purpose of the ESFS was specifically to help resolve the resulting European debt crisis, calm financial markets, restore confidence in the euro, and prevent contagion to other euro zone countries and banks holding large amounts of European government debt.

The European Financial Stability Facility

The European Financial Stability Facility (EFSF) was designed as a special purpose vehicle with a three-year tenure, through June 2013. It was based in Luxembourg and headed by Klaus Regling, former Director-General for economic and financial affairs for the European Commission, the governing body of the EU in Brussels. If a euro zone country experienced difficulties in refinancing their deficits or repaying their debt obligations the EFSF, upon receipt of a request for assistance from the struggling country, was authorized to issue up to €440 billion of bonds and loan the proceeds to the country in financial difficulty. The EFSF bonds were part of an overall €780 billion rescue package of loan guarantees and credits, which also included €60 billion from the European Commission and €280 billion from the IMF. Countries that received the aid would be subject to austerity conditions including tax and pension reform, lower wages for public employees, and privatization of public entities.

In addition to the aid provided by the EFSF, the ECB agreed to purchase euro zone government and private debt in order to provide liquidity to those securities markets facing difficulties. The purchases would be sterilized to avoid any risk of inflation. The ECB also made it easier for countries like Greece and Ireland to borrow by suspending collateral rules that required a minimum investment grade rating. The ECB, for example, accepted Greek government bonds despite their speculative rating by the three major rating agencies.

During the discussions that resulted in the rescue package, a key issue was whether sovereign bondholders would be required to bear losses from any future bailout. Germany pushed for this outcome and argued that the ensuing higher borrowing costs would restrain countries from accumulating huge amounts of debt. A compromise brokered by France called for bondholders to share the cost of any debt restructuring on a case-by-case basis beginning in 2013. Greece immediately requested aid. European leaders believed that a rescue of Ireland would stop the crisis from spreading to other euro zone weak spots like Spain and Portugal. Since the rescue fund required indebted countries to apply for aid before any consideration would be given, Europe waited for Ireland to request the aid.

WHAT NOW?

In October 2010, Lenihan was quoted in the *Irish Times* stating that he was “absolutely” sure the country will not need to seek a bailout from the European Union and IMF. By late 2010, however, despite the government’s efforts to resolve the crisis, Ireland’s situation was precarious. The country’s foreign exchange reserves had dropped from €2.7 billion in December 2003 to €278 million in February 2010. Ireland’s budget deficit and interest rates on government debt continued to rise. The 10-year bond was

rising from a record low of 3.1% in September 2005 to a record high of 14% in July 2011. The market's fear of contagion to other vulnerable euro zone countries was very real as economic conditions in peripheral euro zone countries were deteriorating. The euro dropped below \$1.36, bond markets were turbulent and the European stock market experienced steep declines, particularly the stocks of those of banks with exposure to Ireland. The survival of the euro was at stake. EU President Herman Van Rompuy framed the crisis in Ireland as a decisive moment for Europe and the euro. He said: "We all have to work together in order to survive with the euro zone, because if we don't survive with the euro zone, we will not survive with the European Union" (Walker et al., 2010, November 17).

Irish officials, fearful of the political stigma, were reluctant to surrender their fiscal sovereignty to Europe and the IMF. They remained hopeful that government efforts to stem the crisis would be sufficient. The challenge Lenihan faced was not whether he could make tough decisions. He had already demonstrated that he could. The question was whether Ireland should attempt to resolve the crisis and restore market confidence and economic growth on its own, or subject the Irish people to the humiliation of proceeding hat in hand to the European Commission, the European central Bank and the IMF to seek financial assistance.

The situation was desperate and deteriorating fast. Prime Minister Cowen called Lenihan into his office. Europe wanted a response. What was his recommendation?

QUESTIONS

A. Issues Related to the Financial Crisis

1. What were the major factors that contributed to the financial crisis in Ireland?
2. What factors relating to Ireland's EMU membership may have played a role in its financial crisis?
3. Was the Central Bank of Ireland a contributor to the financial crisis?
4. At the start of the credit crisis in Ireland, what were some of the major risks faced by the banking sector?
5. Why would the existence of government guarantees on bank liabilities not remove the need for additional bank capital?
6. To what extent did moral hazard play a role in the Irish financial crisis?
7. What was the problem with the business model of Irish banks? Why?
8. Analyze the various trends in economic and financial indicators in Ireland over the last 10-15 years. (Case Tables 2, 4, 5, 7)

B. Issues Related to the Decision

1. If Lenihan were to seek a financial rescue package with the euro zone and IMF, what are the difficult choices and fundamental changes to be considered in the request?
2. If Ireland attempted to resolve the crisis without outside assistance they, like other countries in crisis, feared a negative feedback loop between sovereign and bank risk. What were the issues and circumstances surrounding this fear, and a potential remedy?
3. Rather than providing a financial rescue package for Ireland and other struggling euro zone economies, would it have been more efficient and fairer if these countries had simply defaulted on their debt payments to lenders?
4. What was the ultimate decision on the Irish Bailout Plan?

THE IRISH BANKING CRISIS

TEACHING NOTES

Arthur L. Centonze, Pace University

CASE DESCRIPTION

The 2007 financial crisis led to a steep decline in the supply of capital to organizations around the world. As liquidity dried up, countries such as Ireland with fragile and overextended credit environments, overpriced asset markets, and accommodative regulatory systems were vulnerable to the resulting shock waves. This case explores Ireland's economic and financial circumstances before and during the crisis, and its response to the crisis in the face of mounting pressure from the European Commission, the European Central Bank and the IMF for action that would help bring Ireland and other stressed euro zone countries back from the brink. At the close of 2010, Minister for Finance Brian Lenihan Jr. needed to decide whether to accept financial assistance from Europe and the IMF or have Ireland go it alone.

The case has a difficulty level appropriate for masters' level or upper level bachelors' students in finance or economics. It is most effectively taught to students who have been exposed to macroeconomics and introductory finance. The case is designed to be taught in 1.5-2 class hours and should require 2-4 hours of outside preparation by students.

GENERAL COMMENTS

The case can be taught in a course on International Economics, International Banking, International Monetary Economics, Money and Capital Markets or Money and Banking where the emphasis is on banking, central banking, and monetary policy and strategy. The case exposes students to important issues in economics and finance. It was prepared solely as a basis for class discussion and is not intended to serve as a source of primary data or to illustrate effective or ineffective management or leadership. Students should be able to understand, analyze and discuss:

1. The impact of the global financial crisis on a rapidly expanding developed country such as Ireland given its economic structure, and banking and financial system;
2. The implications of aggressively expanding banking credit, bank capital market funding, property bubbles, and a fiscal system dependent on the rise in property values;
3. The advantages and disadvantages of membership in a multi-country monetary system in a period of economic and financial distress;
4. Government decision-making under duress with economic, financial and political implications.

SOLUTIONS

Case Discussion Questions are provided below. They may or may not be assigned to students in advance of their discussion in class. Some or all of them can be assigned in advance as a student project to enhance the learning experience for students, particularly undergraduate students, or simply used as a guide to classroom discussion of key topics.

The case discussion questions are divided into two sections: section A refers to issues central to the financial crisis in Ireland, and section B refers to issues central to the decision in the case.

A. Issues Related to the Financial Crisis

Question 1A: What were the major factors that contributed to the financial crisis in Ireland?

Solution 1A: In the 1994-2000 period the Irish economy enjoyed high export-led growth, moderate wage and price inflation, and sound government finances. The post 2000 period up to the 2007 financial crisis saw significantly rising residential and commercial property prices. Coupled with aggressive bank lending and the government's favorable tax treatment of housing, this irrational exuberance fueled an unsustainable economic expansion. The construction boom led to a significant increase in the demand for labor and wages rose throughout the economy putting pressure on Ireland's wage competitiveness. The country's weak and deferential regulatory regime contributed to the emerging crisis. Ireland's growth model had changed and the country had become more susceptible to a global recession and poorly positioned to handle it when it arrived.

With the onset of the global financial crisis in 2007, housing prices and construction activity declined exerting a drag on wages and tax revenues. The real estate market and construction industry collapsed and unemployment rose to double-digit levels. Deflation, a decline in credit availability, lower business investment outlays, weak domestic spending, and lower consumer confidence contributed to lower GDP growth. A deepening government budget deficit ensued and gross public debt increased. Ireland could not devalue its currency in order to improve its international competitiveness and the euro's rise in value made the situation graver.

The collapse of the property and construction bubble pointed to weaknesses in the banking sector. After Ireland joined the euro currency area in 1999, Irish banks transitioned from a business model dominated primarily by deposit funding to one focused on short-term borrowing in international wholesale markets. This large inflow of credit from abroad, which regulatory authorities did little to stem, allowed Irish banks to extend long-term credit to non-financial companies at a lower cost. A high percentage of the loans went to property developers to finance housing and commercial projects, home builders and home buyers. As a result, home and commercial property prices rose significantly, much higher than those in the U.S.

Banks eased lending standards, which regulatory authorities did little to stop, and the number and size of the mortgages grew. As home prices soared, banks granted even larger mortgages and developers built even more homes. Ireland's economy was now being driven by the easy availability of credit, which regulatory authorities did little to curtail, rather than by its fundamental international competitiveness. When borrowers became reluctant to take on additional levels of debt, and when property supply caught up with demand, both borrowing and property prices declined. Default rates on loans to property developers rose and Irish banks were forced to take write-offs against many of these loans.

Irish banks saw their liabilities to international bondholders rise and foreign lending sources dry up. The 2007 collapse of the construction boom and resulting loan defaults by developers, builders and homeowners led to mounting losses for Irish banks and deterioration in share prices. As Irish property values declined, as households and firms deleveraged, and as depositors switched their savings to stronger non-Irish banks, Irish banks experienced a loss in deposits and a reduced ability to extend new credit to the Irish economy.

Question 2A: What factors relating to Ireland's EMU membership may have played a role in its financial crisis?

Solution 2A: After the EMU began in 1999, relatively low nominal interest rates set by the ECB and even lower real rates (an average of -1% over the 1999-2007 period), at a time when demand and wage pressures in Ireland were already building, helped to facilitate the Irish property boom. Moreover, Ireland's business cycle was not synchronized with rest of the euro area, and the euro area monetary policy did not contain inflationary pressures in Ireland. The Irish authorities' inability to control interest rates and exchange rates in a manner consistent with domestic circumstances meant that these rates were uncoupled from domestic realities and authorities had little in the way of policy restraint to exert. The

EMU introduced an element of uncertainty that domestic policymakers were unable to detect or overcome through tighter fiscal policy, stiffer bank regulation etc....

Ireland's banks began to change their operations after the country joined the EMU in 1999. The banks transitioned from a business model dominated primarily by deposit funding to one focused on short-term borrowing in international wholesale markets. They issued short-term Euro-denominated bonds and sold them to Euro-area banks in the interbank market, thus incurring no currency risk. This allowed Irish banks to extend long-term credit in the property markets at a lower cost. And since the interest rate on many of these mortgages was set as a fixed markup over low European Central Bank (ECB) rates, there was little opportunity for Irish banks to recover through higher lending spreads. Moreover, the heavy borrowing did not result in increases in interest rates because exchange rate risk was nonexistent.

Question 3A: Was the Central Bank of Ireland a contributor to the financial crisis?

Solution 3A: The Central Bank, with no power to set interest rates and control prices, made no attempt to restrain the credit expansion of Irish banks through active regulation and oversight prior to the crisis. For example, the Central Bank through its Irish Financial Services Regulatory Authority (IFSRA) could have restricted mortgage origination to traditional levels of 80% of LTV and perhaps 400% of income. Housing prices would have risen more closely with income levels rather than the boom levels experienced over the 1995-2007 period.

Moreover, as the number of interest only loans grew, the financial regulators could have limited the amount of debt that homeowners amassed in purchasing homes, and they could have curtailed the non-collateralized loans banks made to wealthy developers, written against "personal guarantees" against which the banks would have recourse to the borrower's personal assets in the event of a default. After the crisis hit, the regulators took only a weak step to reduce the decline in lending standards.

Given the small size of Ireland and the domestic market dominance and growth of Irish banks during this period, it is likely that the banks became too connected, politically, to fail. The construction boom led to a rise in jobs, income, spending, economic growth and tax revenue. Under these circumstances, the government's incentive to reign in the banks was greatly diminished. Also, it may have been difficult for regulators and others to distinguish the shift from the "Celtic Tiger" competitive driven growth during the pre-2000 period from the credit-induced expansion that followed. Or again, they simply didn't want to bring it all to an end.

Question 4A: At the start of the credit crisis in Ireland, what were some of the major risks faced by the banking sector?

Solution 4A: The banking sector faced several major risks: liquidity risk from a sudden increase in withdrawals by depositors, and an inability to raise sufficient funding to pay depositors in the face of a collapse of capital market funding on which the banks were increasingly reliant; default risk due to the inability of developers and households to repay property loans, particularly as the collateral underlying those loans deteriorated in value; interest rate risk due to a maturity mismatch when interest rates are volatile; and insolvency risk due to insufficient capital to cover loan losses.

Question 5A: Why would the existence of government guarantees on bank liabilities not remove the need for additional bank capital?

Solution 5A: Undercapitalized banks still require a capital cushion to overcome greater than usual incentives for risk-taking, e.g. with depositor funds, when there is little to lose. The guarantees socialize any losses from unsuccessful risk-taking rather than assign them to shareholders, including bank

managers with stock options. More capital is needed, especially from outside investors, so that owners share both gains and losses and the incentive to take outsized risks is reduced. This is the case even in those situations where the compensation of bank managers is not tied to stock values. In crisis situations and with low capital levels these bank managers tend to become more risk averse to avoid bankruptcy. This leads to highly conservative lending and other activities which can exacerbate an already stagnating economy.

Question 6A: To what extent did moral hazard play a role in the Irish financial crisis?

Solution 6A: Moral hazard arises when an agent has an incentive to behave inefficiently or with a high degree of risk because the agent is insulated from the consequences of the behavior. The potential for moral hazard manifested itself in several forms in the crisis. Like in the U.S., there were misaligned compensation incentives for executives, loan officers and investment managers towards excessive risk-taking without the fear of consequences for any losses. For example, Irish banks borrowed cheap short term funds in the interbank euro market and extended long-term credit to property developers and home buyers. This maturity mismatch bears a potentially high risk, especially during a financial crisis in which money and capital markets freeze up and assets cannot be sold quickly at an acceptable price in the face of a run or panic.

The practice of providing loans to wealthy and politically connected property developers with only personal guarantees, rather than skin in the game, coupled with weak personal bankruptcy regulations and enforcement in Ireland, suggest other potential sources of moral hazard during the construction bubble period.

As mentioned previously, the government's bailout policies, not known ex-ante by the banks but perhaps envisioned in the face of a crisis, is another potential source of moral hazard by inculcating a "too big to fail" culture within the banking sector. The government's guarantee of all domestic Irish banks' liabilities and its direct recapitalization of Irish banks which protected equity holders is an example. The government's move to establish NAMA to cleanse and improve bank balance sheets in order to restore the market's confidence in Irish banks is another example of the potential for moral hazard. Relatedly, the moral hazard problems associated with deposit insurance has been extensively studied and reported. While government supported deposit insurance reduces the risk of bank runs, it can potentially add to risk in two ways. Depositors have little incentive to investigate bank riskiness before depositing their funds, and banks have an incentive to engage in risky behavior because they are insulated from losses up to the deposit insurance ceiling.

Question 7A: What was the problem with the business model of Irish banks? Why?

Solution 7A: After joining the euro area in 1999, Irish banks transitioned from a business model dominated primarily by deposit funding to one focused on short-term borrowing in international wholesale markets. They issued short-term euro-denominated bonds and sold them to euro area banks in the interbank market, thus incurring no exchange rate risk. This allowed Irish banks to extend long-term credit in the property markets, up to 35 years or longer for some mortgages, at a lower cost. And since the interest rate on many of these mortgages was set as a fixed markup over low European Central Bank (ECB) rates, there was little opportunity for Irish banks to recover through higher lending spreads. Irish banks' balance sheets grew more than 650% over the 1999-2008 period (Exhibit 4). This interest rate maturity mismatch between their long-term assets and short-term liabilities bears a potentially high risk in a period of volatile and increasing interest rates and leads to tighter net interest margins and declining profits.

To manage this interest rate risk, banks can manage their balance sheets by shortening the duration of their assets to increase their sensitivity to rate increases or lengthening the duration of their liabilities.

Alternatively, banks can reduce their interest rate exposure through the use of financial derivatives such as forwards, futures, options and swaps.

Question 8A: Analyze the various trends in economic and financial indicators in Ireland over the last 10-15 years. (Case Tables 2, 4, 5, 7)

Solution 8A: Data in Case Table 2 indicate that real GDP growth in Ireland remained strong over the 1996-2007 period, then contracted into a serious recession, among the worst in modern Irish history. The deflation in consumer prices beginning in 2009 and the steep rise in unemployment are consistent with this contraction. Government debt, which had declined to 24.9% of GDP in 2006 ballooned over the 2008-10 period to 92.5% of GDP as the annual government budget balance moved to a strong deficit position and foreign trade collapsed amid a world-wide economic slowdown.

Case Table 4 shows falling interest rates over the 1999-2005 period as banks enticed borrowers with easy loan standards, longer loan maturities, and increasingly attractive financing costs. Case Table 5 points to rapidly rising home prices (in euros) over the 2000-7 period (91% increase) then, beginning in late 2007, falling precipitously and rapidly over the 2008-10 period (25%). By 2006, however, interest rates began to rise (Case Exhibit 5) due partly to the demand/supply strains that were beginning to be felt in housing markets.

In addition, Case Table 7 shows that between 1999 – 2008 Irish bank balance sheets expanded over 650%. Irish customer deposits fell to 22% of total liabilities, while deposits from Irish and non-Irish credit institutions rose to over 46%. Moreover, Irish bank balance sheets experienced a significant rise in non-Irish debt securities from 0.1% of all Irish banking liabilities to 8.5% (total Irish and non-Irish debt securities rose from 0.4% to 12.2% of bank liabilities) through short term borrowing in the global repo market. Non-Irish interbank borrowing and bond issuance had become large and fast growing liabilities. Credit was flowing into Ireland and contributing to the housing and construction bubble while regulatory authorities did little to curtail this credit inflow. Funding tightened as investors began to recognize the economic and financial strains and demanded higher yields to hold Irish government debt. Falling home prices and a decline in demand for commercial properties led to an increase in the default rate on property loans. Irish banks were forced to take losses against many of these loans and, as a result, share prices of Irish financial services institutions began to decline in early 2007.

Domestic consumption and GDP growth is expected to decline in 2012 due to the continued decrease in house prices, increase in household saving and deleveraging, and to the recession in the euro area, the UK, and elsewhere. Unemployment will likely remain high and structural unemployment may rise. Government debt levels are expected to remain high, reaching 118.4% of GDP in 2013, or higher if growth were to weaken. Low overall inflation, a weaker euro, a continuing growth in FDI, and a return to net export growth may offset some of the negative factors but on balance the outlook is mixed. Without a credible long-term euro zone fiscal plan it is uncertain whether Ireland will be able to return to international bonds markets as planned in 2013 and end its reliance on loans from the EU and IMF. Nevertheless, the IMF expects that the government's fiscal deficit will continue to decline in 2012 to 8.6% of GDP and, assuming no significant macroeconomic shocks and no further fiscal consolidation beyond what is already planned, the government will achieve its deficit goal of 3% of GDP in 2015.

B. Issues Related to the Decision

Question 1B: If Lenihan were to seek a financial rescue package with the euro zone and IMF, what are the difficult choices and fundamental changes to be considered in the request?

Solution 1B: How much of a bailout fund would Lenihan request, how would it be financed, and at what

interest rate and maturity? Would the funds be used only to recapitalize the banks or would a larger package be needed to cover the government's financing needs for the next few years? Would Ireland, as a condition of receiving rescue funds, be willing to accept additional austerity measures such as further spending cuts and tax increases to cut its deficit? Over what time period would any austerity measures extend and what fiscal benchmarks would Ireland be obliged to achieve? Would austerity, in fact, raise investor confidence in Irish financial markets, lead to economic growth and facilitate the repayment of sovereign debt? What oversight would Ireland be willing to accept from the euro zone and IMF? Would they agree to an increase in the country's low, 12.5%, corporate tax rate? Would Irish banks be restructured and downsized?

Question 2B: If Ireland attempted to resolve the crisis without outside assistance they, like other countries in crisis, feared a negative feedback loop between sovereign and bank risk. What were the issues and circumstances surrounding this fear, and a potential remedy?

Solution 2B: Euro zone countries with impaired balance sheets needed to issue sovereign debt in order to rescue their banks. Once the borrowed funds were allocated to recapitalize their banks and help them deal with rising loan portfolio losses, the funds remained sovereign debt subject to default.

Moreover, as Europe's debt crisis spread over time beyond Greece and Ireland to Spain, Italy and other periphery euro zone countries, these countries found it difficult to repay existing debt or fund new debt in worldwide capital markets as interest rates rose despite the single policy rate set by the ECB. They resorted to selling bonds to their own banks, aided by low interest loans from the ECB. Often, undercapitalized or overly aggressive banks, as in Ireland, in turn undermined the financial credibility of the countries in which they resided. This negative feedback loop between sovereign and bank risks, and a loss of investor confidence in Europe's ability to contain the crisis drove bond yields increasingly higher, particularly in Spain and Italy.

It was becoming increasingly clear to policymakers within Europe, including within the ECB, that the euro, if it were to survive, would need to be supported by a banking union. This union would decouple the link between sovereign and bank risk so that banks are not penalized, through lower bond ratings for example, for the fiscal irresponsibility of their national governments. The union would include euro-wide bank supervision of national banks, deposit guarantees, crisis resolution authority to wind down troubled banks, and a centralized institutional structure to oversee the implementation of the reforms.

Germany, however, the largest economy in Europe and the euro zone's main economic driver, has to date only agreed to ECB supervision of large banks, with smaller banks remaining the responsibility of national central banks. Also, Germany has yet to agree to any scheme involving centralized pools of funds for euro-wide deposit guarantees or bank crisis resolution, nor has it agreed to the joint issuing of bonds by euro zone governments (Eurobonds) without more rigorous euro-wide control over fiscal decision-making within the region, i.e. how governments spend their money. A more comprehensive economic union and accompanying loss of sovereignty, with euro zone nations taking responsibility for each other's budgets and banks, would require a new EU treaty and constitutional changes within member states. This could take a long time to accomplish, perhaps a decade or more, assuming it were possible at all.

Question 3B: Rather than providing a financial rescue package for Ireland and other struggling euro zone economies, would it have been more efficient and fairer if these countries had simply defaulted on their debt payments to lenders?

Solution 3B: Some experts believe that forcing bondholders to accept negotiated losses, haircuts, on their investments is a good idea. For example, the investors who enabled Ireland's external debt to grow to 10

times GDP should absorb the losses and share the pain. They believe this option is less drastic than having countries like Ireland further damage their economies by drastically cutting their budgets and raising taxes in order to bring their deficits down: in Ireland's case from 32% of GDP to 3% by 2015. An organized restructuring would reduce the debt owed and, combined with a rescue package, would provide for a quicker recovery and a lower probability of sovereign default in the future. Moreover, these experts assert that holding bondholders harmless contributes to moral hazard and increases risk elsewhere in financial markets.

Default proponents point to the success of Russia in 1998 and Argentina in 2002 after their successful debt restructurings. Both countries were able to devalue their currencies and grow their economies by improving their competitive positioning through increased exports, something Ireland is unable to do while remaining in the euro zone.

Other experts believe that the imposition of bond haircuts by a country can lead to a lack of capital market access in the future, as happened to Russia and Argentina, or a significant increase in future borrowing costs for this country and for other countries in a similar weakened state. Also, a debt restructuring is very difficult to accomplish politically. The primary creditor banks that stand to lose, both locally and in countries like the U.S., Britain, Germany, and France would be against such a move. In addition, because Ireland's budget deficit was so large, about 10 times GDP, any threat of a capital markets lockout would create further economic and political unrest.

Question 4B: What was the ultimate decision on the Irish Bailout Plan?

Solution 4B: In late 2010, European experts from the ECB, European Commission and the IMF travelled to Dublin to assess the country's financial needs and the banks' capital needs. Brian Lenihan, the minister for Finance, was under considerable pressure from financial markets and leaders from other euro-zone countries concerned about financial panic and contagion. He ultimately acknowledged in a national television broadcast that "we have to find a resolution to our banking difficulties with whatever external assistance is appropriate" (Enrich and Forelle, 2010).

The government was now ready to engage in discussions on a financial rescue program with the IMF, ECB and European Commission. The discussions focused on a number of issues central to Ireland's political and financial sovereignty. For example, whether the funds would be used only to recapitalize its banks or whether a larger package would be needed to cover the government's financing needs for the next few years, enabling the country to temporarily withdraw from the sovereign debt market. Also, as a condition of receiving the rescue funds, discussions centered on whether Ireland should be required to impose severe austerity measures including an increase in its low, 12.5%, corporate tax rate. France and Germany considered this rate to be an intra-European distortion while Ireland insisted it was necessary to attract investment and create the growth needed to overcome the crisis.

A deal was reached in November 2010 between Ireland and the IMF, the euro zone's European Financial Stability Facility (EFSF), and the European Commission's European Financial Stability Mechanism (EFSM). Ireland, upon its request, would receive a three-year package of loans to cover financing needs up to €85 billion. Prime Minister Brian Cowen announced that two funds would be created. One to recapitalize Irish banks and help them deal with rising losses on their loan portfolios, and another to help fund the government's budget deficit without resorting to the bond markets. Irish banks would be restructured and the largest banks, Bank of Ireland and Allied Irish Banks, downsized by shedding assets including overseas operations that were not essential to the banks' and the country's future growth. The government agreed, despite public protests, on an austerity program to cut €15 billion from its deficit over the 2011-14 fiscal years through spending cuts and tax increases, and to reduce the budget deficit from

32% of GDP to 3% by 2014. The agreement called for no change in the 12.5% corporate tax rate so that Ireland's economic recovery and debt repayment would be easier to achieve.

The arrangement would be reviewed quarterly against quantitative performance criteria and benchmarks, in conjunction with the IMF, in order to ensure timely and appropriate implementation.

In December 2010 the Irish parliament voted to request a €67.5 billion EU/IMF bailout package. The funds would come equally (€22.5 billion each) from the EFSF at 6.05% interest (includes bilateral loans of €4.8 billion from the UK, Sweden and Denmark), and the EFSM and IMF at 5.7% interest. The average life of the borrowings, which include both short and long dated maturities, is 7.5 years. Ireland would contribute €17.5 of its own funds to the package from its accumulated cash balances and national pension reserve fund. At a Dublin news conference Prime Minister Cowen said that the package would provide Ireland with the vital time and space the country needed to address the problems the country had been dealing with since the global economic crisis began (Forelle and Walter, 2010).

A request by Ireland to the ECB to extend its payment schedule on the borrowed funds was approved in early 2013 in return for the liquidation of the successor bank to Anglo Irish Bank at the expense of bondholders.

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