

# **Deposit Insurance Around the World: A Comprehensive Analysis and Database**

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## **Deposit Insurance Around the World: A Comprehensive Analysis and Database**

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July 2015

**Abstract:** This paper provides a comprehensive, global database of deposit insurance arrangements as of 2013. We extend our earlier dataset by including recent adopters of deposit insurance and information on the use of government guarantees on banks' assets and liabilities, including during the recent global financial crisis. We also create a Safety Net Index capturing the generosity of the deposit insurance scheme and government guarantees on banks' balance sheets. The data show that deposit insurance has become more widespread and more extensive in coverage since the global financial crisis, which also triggered a temporary increase in the government protection of non-deposit liabilities and bank assets. In most cases, these guarantees have since been formally removed but coverage of deposit insurance remains above pre-crisis levels, raising concerns about implicit coverage and moral hazard going forward.

JEL Classification Numbers: G20

Keywords: Deposit insurance; Financial institutions; Financial crises

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## 1. INTRODUCTION

The recent global crisis tested and tried deposit insurance schemes (DIS), and their ability to protect household savings in banks. Country authorities and financial regulators reacted to the extraordinary circumstances of the crisis by expanding the coverage offered in existing deposit insurance arrangements or adopting deposit insurance where it was not already in place. This pattern of policy response exposed the adverse distributional effects of generous schemes and underscored the strengths and weaknesses of different DIS features.

This paper presents a comprehensive database of deposit insurance arrangements through the end of 2013, covering the IMF membership of 188 countries plus Liechtenstein. For countries with an explicit deposit insurance scheme, information is provided on the characteristics of the DIS (such as type, management, coverage, funding, and payouts). For recent years, we add information on deposit coverage increases, government guarantees on deposits and non-deposit liabilities, as well as whether a country experienced a significant nationalization of banks. To assess a country's ability to honor its deposit insurance (and other safety net) obligations, we supplement these data with information on the size of potential deposit liabilities, the amount of DIS funds, and government indebtedness.

While it is too early to draw definitive conclusions about the adequacy of DIS during the recent global financial crisis, our preliminary assessment is that, by and large, DIS fulfilled its foremost purpose of preventing open runs on bank deposits. In the face of large shocks to the global financial system, as well as concerted and protracted concerns about the solvency of practically every large financial institution in the world, we did not observe widespread bank runs. There were some notable exceptions (such as Northern Rock in the UK) and there were protracted withdrawals by uninsured depositors, but the world did not experience systemic bank runs by *insured* depositors. From this perspective, DIS delivered on its narrow objective. However, as we look to what we hope are many post-crisis years, the expansion of the financial safety net (both through an extended coverage of deposit insurance and increased reliance on government guarantees and demonstrated rescue propensities to support the financial sector) is something to worry about. The expansion of national safety nets raises questions about (i) whether government finances are adequate to support the promises of existing DIS in future periods of stress (the more so given that governments will likely face renewed pressures to further increase DIS promises in future crises) and (ii) how to balance the objective of preventing bank runs with the potentially negative effects of DIS in the form of moral hazard and the threat to financial stability from incentives for aggressive risk-taking.

The rest of the paper is organized as follows. Section 2 describes the main database, with a description of each variable included. Section 3 surveys the current state of DIS worldwide. Section 4 reviews policies undertaken during the financial crisis period to protect depositors against the loss of value of their deposit savings. Section 5 concludes.

## 2. THE DATABASE

The database builds upon earlier work by Demirgüç-Kunt, Karacaovali, and Laeven (2005). The original dataset covered deposit insurance schemes through 2003. It was constructed

through a combination of country sources, as well as earlier studies by Garcia (1999), Kyei (1995), and Talley and Mas (1990), among others.

This version updates the earlier database and extends it to 2013. Whenever possible, we relied on official sources. Our starting point was a comprehensive survey on financial sector regulations conducted by the World Bank in 2010. This survey asked national officials for information on capital requirements, ownership and governance, activity restrictions, bank supervision, as well as on the specifics of their deposit insurance arrangements. These data were combined with the deposit insurance surveys conducted by the International Association of Deposit Insurers in 2008, 2010, and 2011, and in the case of European countries with detailed information on deposit insurance arrangements obtained from the European Commission (2011). Discrepancies and data gaps were checked against national sources, including deposit insurance laws and regulations, and IMF staff reports. Information on government actions undertaken during the financial crisis was collected from Laeven and Valencia (2012), FSB (2010, 2012), Schich (2008, 2009), Schich and Kim (2011), and IMF staff reports.

Our focus is on deposit insurance for commercial banks. For countries with multiple DIS, the data provided relate only to the national statutory scheme. This means that stated coverage levels may understate actual coverage. For example, the complex voluntary DIS for commercial banks in Germany provides insurance of up to 30 percent of bank capital per depositor, essentially offering unlimited coverage for most depositors.

The full database, including information on arrangements other than the national statutory scheme, is available in spreadsheet format as an online Appendix to this paper. The source of the data is indicated in the appendix. The following section describes the variables used in the remainder of the paper.

## **2.1 Design features**

### **2.1.1 Explicit versus implicit deposit insurance**

We follow Demirgüç-Kunt, Kane, and Laeven (2006) in arguing that a country may be assumed to offer implicit deposit insurance, given the strength of governmental pressures to provide relief in the event of a widespread banking insolvency, unless the country has passed formal legislation or regulation outlining explicit deposit coverage. Indeed, implicit coverage always exists, regardless of the level of explicit coverage. Countries may have an explicit deposit insurance scheme without specifying an institution or fund to carry out powers laid down in statutes or regulation, but the issuance of temporary blanket guarantees by the government is not sufficient to qualify as having explicit deposit insurance. Hence, we assume that any country that lacks an explicit deposit insurance scheme has implicit deposit insurance. Table 1 lists all countries with explicit deposit insurance.

**Table 1. Explicit Deposit Insurance Schemes Around the World, end-2013**

As of 2013	Countries with Explicit Deposit Insurance Schemes			Countries Without Explicit Deposit Insurance Schemes		
Africa	Cameroon (2011) 7/ Central African Rep. (2011) 7/ Chad (2011) 7/ Congo, Rep. (2011) 7/ Equatorial Guinea (2011) 7/ Gabon (2011) 7/ Kenya Nigeria Tanzania Uganda Zimbabwe			Angola Benin Botswana Burkina Faso Burundi Cape Verde Comoros Congo, Democratic Rep. Côte d'Ivoire Eritrea Ethiopia Gambia, The	Ghana Guinea Guinea-Bissau Lesotho Liberia Madagascar Malawi Mali Mauritius Mozambique Namibia Niger	Rwanda São Tomé and Príncipe Senegal Seychelles Sierra Leone Somalia South Africa Swaziland Togo Zambia
Asia-Pacific 9/	Australia (2008) 1/ Bangladesh Brunei Darussalam (2011) 1/ Hong Kong (2004) 1/ India Indonesia (2004) 1/ Japan	Korea, Rep. of Laos Malaysia (2005) 1/ Marshall Islands 2/ Micronesia 2/ Mongolia (2013) 1/ Nepal (2010) 1/	Philippines Singapore (2006) 1/ Sri Lanka (2012) 8/ Thailand (2008) 1/ Vietnam	Bhutan Cambodia China Fiji Kiribati Maldives Myanmar 3/ New Zealand 4/ Palau Papua New Guinea Samoa Solomon Islands Timor-Leste Tonga		Tuvalu Vanuatu
Europe	Albania Austria Belarus Belgium Bosnia & Herzegovina Bulgaria Croatia Cyprus Czech Republic Denmark Estonia Finland France Germany Gibraltar	Greece Hungary Iceland Ireland Italy Kosovo (2012) 1/ Latvia Liechtenstein Lithuania Luxembourg Macedonia, FYR Malta Moldova (2004) 1/ Montenegro (2010) Netherlands	Norway Poland Portugal Romania Russian Federation Serbia Slovak Republic Slovenia Spain Sweden Switzerland Turkey Ukraine United Kingdom	Israel San Marino		
Middle East and Central Asia	Afghanistan (2009) Algeria Armenia (2005) 1/ Azerbaijan (2007) 1/ Bahrain Jordan	Kazakhstan Kyrgyz Republic (2008) 1/ Lebanon Libya (2010) Mauritania (2008) 1/ 10/ Morocco	Oman Sudan Tajikistan (2004) 1/ Turkmenistan Uzbekistan Yemen (2008) 1/	Djibouti Egypt Georgia Iran Iraq Kuwait	Pakistan Qatar Saudi Arabia Syrian Arab Republic Tunisia United Arab Emirates	
Western Hemisphere	Argentina Bahamas, The Barbados (2007) 1/ Brazil Canada Chile Colombia	Ecuador El Salvador Guatemala Honduras Jamaica Mexico Nicaragua	Paraguay Peru Trinidad and Tobago United States Uruguay Venezuela	Antigua and Barbuda Belize Bolivia 5/ Costa Rica Dominica Dominican Republic 6/ Grenada	Guyana Haiti Panama St. Kitts and Nevis St. Lucia St. Vincent and the Grenadines Suriname	

**Notes:**

1/ Explicit deposit insurance scheme introduced since previous release of the deposit insurance database in 2004.

2/ Covered by the deposit insurance scheme of the United States (FDIC).

3/ Insurance product tailored to small retail depositors provided to private banks by a state-run insurance company. Several large banks, including Kanbawza and Co-operative Bank, have participated as of 2011.

4/ New Zealand introduced an opt-in retail deposit guarantee scheme in October 2008 and closed it in December 2010. Deposits held in New Zealand branches of Australian branches were covered under the Australian deposit insurance scheme from 2008 - 2010, but current legislation will limit coverage to Australian dollar-denominated deposits only.

5/ Bolivia has a bank resolution fund with funding provided by member banks, but no explicit deposit insurance.

6/ The Dominican Republic has no deposit insurance for commercial banks, but there is a scheme (established in 1962) insuring the savings and term deposits in savings and loan associations. In the past, the Central Bank has guaranteed deposits at Bancomercio (1996) and Baninter (2003) when these large banks failed.

7/ In 2009, Cameroon, Central African Rep., Chad, Congo (Rep), Equatorial Guinea, and Gabon, which share a regional central bank, established the Fonds de Garantie des Depots en Afrique Centrale (FOGADAC), a regional deposit insurance scheme that became operational in 2011.

8/ The Sri Lanka Deposit Insurance Scheme (SLDIS) became effective on January 1, 2012, although member banks and finance companies participating in this scheme already started contributing on a mandatory basis starting on October 1, 2010.

9/ Taiwan (ROC) has deposit insurance but is not an IMF member.

10/ A deposit guarantee fund (Fonds de Garantie des Dépôts) exists on the basis of the deposit guarantee law of 2008 but has not become operational yet as of end-2013.

Sources: World Bank Survey, IADI, Laeven and Valencia (2012), FSB (2010, 2012), IMF staff reports, and national deposit insurance agencies.

### 2.1.2 Coverage

Explicit deposit insurance schemes typically insure deposits up to a statutory coverage limit. Particularly during banking crises, countries often issue guarantees on top of pre-announced, statutory limits. We provide information on both the statutory limits, and the limits taking into account additional government guarantees. **Coverage** is the coverage limit in local currency. It takes on a numerical value or “unlimited” if a full guarantee is in place. **Coverage / GDP per Capita** is the ratio of the coverage limit to per capita GDP, expressed as a percentage, and based on the statutory coverage limit excluding government guarantees over and above the statutory limit. In those few cases where the statutory limits provides for unlimited coverage, the Coverage / GDP per capita ratio is also set to “Unlimited”.

Table 2 reports these coverage limits both in reported (typically local) currency and translated in US dollars (using end-of-year exchange rates). Data on GDP per capita is taken from the April 2014 IMF WEO database, unless otherwise noted. Footnotes accompanying Table 2 specify the coverage limits for individual countries. For countries with coinsurance, coinsurance rules are also described.

Coverage limits are reported for three points in time: 2003, 2010, and 2013. In each case the limits refer to year-end values. With a few exceptions, the general trend is an increase in coverage between 2003 and 2010, often triggered by the global financial crisis. Since then statutory coverage levels have generally remained at these higher levels in nominal terms through 2013, although coverage declined in most of those countries that also introduced deposit guarantees as these guarantees were mostly phased out by the end of 2013. Coverage relative to GDP has also slightly declined on average over the period 2010 to 2013, as countries recovered from the global financial crisis.

Table 2. Coverage of Explicit Deposit Insurance Schemes Around the World, end-2013

Country	Statutory limit						Coverage including government guarantees (US\$)			Coverage limit / GDP per capita (in %)		
	Reported Currency			US Dollars			2003	2010	2013	2003	2010	2013
	2003	2010	2013	2003	2010	2013						
Afghanistan	n.a.	AF100,000	AF100,000	n.a.	2222	1767	n.a.	2222	1767	n.a.	412	260
Albania	100% of first LEK350,000; 85% of next LEK411,765 (up to maximum of LEK700,000)	LEK2,500,000	LEK2,500,000	5796	24032	24498	5796	24032	24498	319	586	531
Algeria	DIN600,000	DIN600,000	DIN600,000	7752	8066	7678	7752	8066	7678	364	180	141
Argentina	ARG30,000	ARG120,000	ARG120,000	10345	30769	18209	10345	30769	18209	303	336	155
Armenia	n.a.	AMD4,000,000	AMD4,000,000	n.a.	10705	9877	n.a.	10705	9877	n.a.	377	308
Australia	n.a.	AUD1,000,000	AUD250,000	n.a.	917431	221625	n.a.	UNLIMITED 1/	221625	n.a.	1628	342
Austria	EUR20,000 7/	EUR100,000	EUR100,000	22727	133333	137830	22727	133333	137830	73	296	282
Azerbaijan, Rep. of	n.a.	AZN30,000	AZN30,000	n.a.	37500	38217	n.a.	37500	38217	n.a.	638	484
Bahamas, The	BAH50,000	BAH50,000	BAH50,000	50000	50000	50000	50000	50000	50000	223	218	213
Bahrain	75% of first BHD20,000 (up to maximum of BHD15,000)	75% of first BHD20,000 (up to maximum of BHD15,000)	75% of first BHD20,000 (up to maximum of BHD15,000)	39474	39474	39894	39474	39474	39894	262	170	145
Bangladesh	TAK60,000	TAK100,000	TAK100,000	1032	1425	1287	1032	1425	1287	271	203	142
Barbados	n.a.	USD12,500	USD12,500	n.a.	12500	12500	n.a.	12500	12500	n.a.	78	81
Belarus	USD1,000	EUR5,000	EUR5,000	1000	6667	6892	1000	UNLIMITED 8/	UNLIMITED	55	115	91
Belgium	EUR20,000	EUR100,000	EUR100,000	22727	133333	137830	22727	133333	137830	76	306	304
Bosnia-Herzegovina	BAM5,000	BAM35,000	BAM35,000	2890	23649	24700	2890	23649	24700	131	547	537
Brazil	BRR20,000	BRR70,000	BRR250,000	6536	39773	106211	6536	39773	106211	215	359	939
Brunei Darussalam	n.a.	BND50,000	BND50,000	n.a.	36765	39392	n.a.	36765	39392	n.a.	115	99
Bulgaria	BGN15,000	BGN196,000	BGN196,000	8671	132432	137063	8671	132432	137063	328	2078	1870
Cameroon	n.a.	XAF5,000,000	n.a.	n.a.	10480	n.a.	n.a.	10480	n.a.	n.a.	n.a.	1031
Canada	CAD60,000	CAD100,000	CAD100,000	42857	97087	93985	42857	97087	93985	157	8799	7394
Central African Rep.	n.a.	n.a.	XAF5,000,000	n.a.	n.a.	10480	n.a.	n.a.	10480	n.a.	n.a.	3142
Chad	n.a.	n.a.	XAF5,000,000	n.a.	n.a.	10480	n.a.	n.a.	10480	n.a.	n.a.	860
Chile	90% of first UDF120 (up to maximum of UDF108) 12/	90% of first UDF120 (up to maximum of UDF108) 12/	90% of first UDF120 (up to maximum of UDF108) 12/	2643	4542	4710	2643	4542	4710	54	36	30
Colombia	75% of first COP26,666,667 (up to maximum of COP20,000,000)	COP20,000,000	COP20,000,000	6954	10584	10403	6954	10584	10403	306	168	128
Congo, Rep.	n.a.	n.a.	XAF5,000,000	n.a.	n.a.	10480	n.a.	n.a.	10480	n.a.	n.a.	318
Croatia	HKN100,000	HKN400,000	EUR100,000 14/	14925	72727	137830	14925	72727	137830	194	530	1016
Cyprus	90% of first EUR22,222 (up to maximum of EUR20,000)	EUR100,000	EUR100,000	22727	133333	137830	22727	133333	137830	123	485	557
Czech Republic	90% of first EUR27,778 (up to maximum of EUR25,000)	EUR100,000	EUR100,000	28409	133333	137830	28409	133333	137830	304	703	731
Denmark	DKK300,000	EUR100,000	EUR100,000	45524	133333	137830	45524	133333	137830	115	236	233
Ecuador	USD9,768	USD27,000	USD31,000	9768	27000	31000	9768	27000	31000	400	583	519
El Salvador	USD6,700	USD9,000	USD9,800	6700	9000	9800	6700	9000	9800	268	261	253
Equatorial Guinea	n.a.	n.a.	XAF5,000,000	n.a.	n.a.	10480	n.a.	n.a.	10480	n.a.	n.a.	51
Estonia	EKK100,000	EUR100,000	EUR100,000	7263	133333	137830	7263	133333	137830	100	936	724
Finland	EUR25,000	EUR100,000	EUR100,000	28409	133333	137830	28409	133333	137830	90	302	292
France	EUR70,000	EUR100,000	EUR100,000	79545	133333	137830	79545	133333	137830	276	326	321
Gabon	n.a.	n.a.	XAF5,000,000	n.a.	n.a.	10480	n.a.	n.a.	10480	n.a.	n.a.	85
Germany	90% of first EUR22,222 (up to maximum of EUR20,000)	EUR100,000	EUR100,000	22727	133333	137830	22727	133333	137830	77	329	306
Gibraltar	EUR50,000	EUR100,000	EUR100,000	56818	133333	137830	56818	133333	137830	181	254	203
Greece	EUR20,000	EUR100,000	EUR100,000	22727	133333	137830	22727	133333	137830	130	506	631
Guatemala	GTQ20,000	GTQ20,000	GTQ20,000	2519	2481	2549	2519	2481	2549	139	86	73
Honduras	USD9,632.92 16/	USD9,632.92	USD9,632.92	9633	9633	9633	9633	9633	9633	784	467	415
Hong Kong	n.a.	HKD500,000	HKD500,000	n.a.	64350	64516	n.a.	UNLIMITED 2/	64516	n.a.	198	171
Hungary	90% of first HUF3,333,333 (up to maximum of HUF3,000,000)	EUR100,000	EUR100,000	13374	133333	137830	13374	133333	137830	162	1047	1028
Iceland	ISK3,425,000	EUR20,887	EUR20,887	27259	28019	28789	27259	28019	28789	72	71	63
India	INR100,000	INR100,000	INR100,000	2147	2172	1613	2147	2172	1613	384	152	107
Indonesia	n.a.	IDR200,000,000	IDR200,000,000	n.a.	220072	162999	UNLIMITED 3/	220072	162999	n.a.	7373	4644
Ireland	90% of first EUR22,222 (up to maximum of EUR20,000)	EUR100,000	EUR100,000	22727	133333	137830	22727	133333	137830	57	289	302
Italy	EUR103,291	EUR100,000	EUR100,000	117376	133333	137830	117376	133333	137830	446	383	397
Jamaica	JMD300,000	JMD600,000	JMD600,000	5196	6892	5661	5196	6892	5661	145	143	110
Japan	JPY10,000,000	JPY10,000,000	JPY10,000,000	86259	113921	94967	86259	113921	94967	256	265	247
Jordan	JOD10,000	JOD10,000	JOD50,000	14085	14085	70641	14085	UNLIMITED 10/	70641	713	326	1365
Kazakhstan	KZT400,000	KZT5,000,000	KZT5,000,000	2676	33931	32550	2676	33931	32550	129	377	253
Kenya	KES100,000	KES100,000	KES100,000	1317	1258	1157	1317	1258	1157	299	160	114
Korea, Rep.	KRW50,000,000	KRW50,000,000	KRW50,000,000	41960	43250	47366	41960	43250	47366	312	211	195
Kosovo	n.a.	n.a.	EUR3,000	n.a.	n.a.	4135	n.a.	n.a.	4135	n.a.	n.a.	116
Kyrgyz Republic	n.a.	KGS100,000	KGS100,000	n.a.	2175	2031	n.a.	2175	2031	n.a.	249	159
Lao PDR	KIP15,000,000	KIP20,000,000	KIP20,000,000	1426	2384	2498	1426	2384	2498	393	222	169
Latvia	EUR4,600	EUR100,000	EUR100,000	5227	133333	137830	5227	133333	137830	109	1173	906
Lebanon	LBP5,000,000	LBP5,000,000	LBP5,000,000	3317	3317	3320	3317	3317	3320	65	38	33

**Table 2. Coverage of Explicit Deposit Insurance Schemes Around the World, end-2013 (continued)**

Country	Statutory limit						Coverage including government guarantees (US\$)			Coverage limit / GDP per capita (in %)		
	Reported Currency			US Dollars			2003	2010	2013	2003	2010	2013
	2003	2010	2013	2003	2010	2013						
Libya	n.a.	100% of first LYD10,000, 50% for next LYD90,000, 25% of next LYD300,000, 12.5% of next LYD600,000, and 10% for amounts above LYD1,000,000, up to a maximum of LYD250,000	100% of first LYD10,000, 50% for next LYD90,000, 25% of next LYD300,000, 12.5% of next LYD600,000, and 10% for amounts above LYD1,000,000, up to a maximum of LYD250,000	n.a.	197316	201873	n.a.	197316	201873	n.a.	1597	1828
Liechtenstein	EUR20,000	CHF100,000	CHF100,000	22727	96154	112170	22727	96154	112170	25	71	83
Lithuania	100% of first LTL10,000; 90% of 90% of first EUR22,222 (up to maximum of EUR20,000)	EUR100,000	EUR100,000	14706	133333	137830	14706	133333	137830	273	1125	861
Luxembourg	100% of first EUR10,000; 90% of next EUR11,111	EUR100,000	EUR100,000	22727	133333	137830	22727	133333	137830	35	130	125
Macedonia, FYR	n.a.	EUR30,000	EUR30,000	22727	40000	41349	22727	40000	41349	969	879	836
Malaysia	90% of first EUR22,222 (up to maximum of EUR20,000)	MYR250,000	MYR250,000	n.a.	77640	75896	UNLIMITED 4/	77640	75896	n.a.	897	720
Malta	90% of first EUR22,222 (up to maximum of EUR20,000)	EUR100,000	EUR100,000	22727	133333	137830	22727	133333	137830	177	645	603
Marshall Islands	USD100,000	USD250,000	USD250,000	100000	250000	250000	100000	250000 13/	250000	4107	8114	7731
Mexico	10,000,000 UDI 18/	10,000,000 UDI 18/	400,000 UDI 18/	2984865	146515	154876	2984865	146515	154876	1988	1594	1457
Micronesia	USD100,000	USD250,000	USD250,000	100000	250000	250000	100000	250000 13/	250000	4359	8734	7776
Moldova	n.a.	MDL6000	MDL6000	n.a.	485	460	n.a.	485	460	n.a.	30	21
Mongolia	n.a.	MNT20,000,000	MNT20,000,000	n.a.	14841	12202	n.a.	UNLIMITED 15/	12202	n.a.	660	307
Montenegro	n.a.	EUR20,000	EUR50,000	n.a.	26667	68915	n.a.	26667	68915	n.a.	401	981
Morocco	MAD50,000	MAD80,000	MAD80,000	5225	9501	9790	5225	9501	9790	316	333	306
Nepal	n.a.	NPR200,000	NPR200,000	n.a.	2683	2021	n.a.	2683	2021	n.a.	450	292
Netherlands	EUR20,000	EUR100,000	EUR100,000	22727	133333	137830	22727	133333	137830	69	285	289
Nicaragua	USD10,000	USD10,000	USD10,000	10000	10000	10000	10000	10000	10000	994	690	544
Nigeria	NGN50,000	NGN50,000	NGN50,000	387	3328	3118	387	3328	3118	76	224	184
Norway	NOK2,000,000	NOK2,000,000	NOK2,000,000	282486	331126	327172	282486	331126	327172	573	386	326
Oman	75% of first OMR26,667 (up to maximum of 20,000)	OMR20,000	OMR20,000	52632	52632	52016	52632	52632	52016	571	225	206
Paraguay	PYG72,930,975 19/	PYG113,061,300 19/	PYG124,367,400 19/	25000	27000	27034	25000	27000	27034	2556	842	648
Peru	PNS68,474	PNS85,793	PNS92,625 20/	19676	30316	33151	19676	30316	33151	863	582	497
Philippines	PHP100,000	PHP500,000	PHP500,000	1845	11084	11258	1845	11084	11258	181	514	403
Poland	100% of first EUR1,000; 90% of next EUR23,889 (up to maximum of EUR22,500)	EUR100,000	EUR100,000	25568	133333	137830	25568	133333	137830	451	1083	1029
Portugal	EUR25,000	EUR100,000	EUR100,000	28409	133333	137830	28409	133333	137830	183	618	665
Romania	EUR3,400	EUR100,000	EUR100,000	3864	133333	137830	3864	133333	137830	141	1735	1547
Russian Federation	RUB100,000	RUB700,000	RUB700,000	3257	23049	21388	3257	23049	21388	109	216	144
Serbia	EUR3,000	EUR50,000	EUR50,000	3409	66667	68915	3409	66667	68915	130	1325	1167
Singapore	n.a.	SGD20,000	SGD50,000	n.a.	14706	39392	n.a.	UNLIMITED 5/	39392	n.a.	32	72
Slovak Republic	90% of first EUR22,222 (up to maximum of EUR20,000)	EUR100,000	EUR100,000	22727	133333	137830	22727	UNLIMITED 9/	137830	267	827	778
Slovenia	EUR18,500	EUR100,000	EUR100,000	21023	133333	137830	21023	133333	137830	144	580	606
Spain	EUR20,000	EUR100,000	EUR100,000	22727	133333	137830	22727	133333	137830	108	447	473
Sri Lanka	n.a.	n.a.	RS200,000	n.a.	n.a.	1528	n.a.	n.a.	1528	n.a.	n.a.	48
Sudan	SDG1,500	SDG10,000	SDG10,000	575	4202	7921	575	4202	7921	119	257	388
Sweden	SKK250,000	EUR100,000	EUR100,000	30902	133333	137830	30902	133333	137830	88	271	238
Switzerland	CHF30,000	CHF100,000	CHF100,000	22222	96154	112170	22222	96154	112170	49	136	138
Tajikistan	n.a.	TJS7,000	TJS7,000	n.a.	1598	1446	n.a.	1598	1446	n.a.	216	138
Tanzania	TZS250,000	TZS1,500,000	TZS1,500,000	241	1122	944	241	1122	944	74	210	134
Thailand	n.a.	UNLIMITED 6/	THB50,000,000	n.a.	UNLIMITED 6/	1523322	UNLIMITED 6/	UNLIMITED 6/	1523322	n.a.	UNLIMITED 6/	26846
Trinidad & Tobago	TTD50,000	TTD125,000	TTD125,000	7937	11774	19393	7937	11774	19393	92	76	94
Turkey	TRY50,000	TRY50,000	TRY100,000	33333	33333	46473	33333	33333	46473	730	333	430
Turkmenistan	UNLIMITED	UNLIMITED	UNLIMITED	UNLIMITED	UNLIMITED	UNLIMITED	UNLIMITED	UNLIMITED	UNLIMITED	UNLIMITED	UNLIMITED	UNLIMITED
Uganda	UGX3,000,000	UGX3,000,000	UGX3,000,000	1593	1478	1188	1593	1478	1188	670	288	190
Ukraine	UAH1,500	UAH150,000	UAH200,000	281	1892	24242	281	1892	24242	27	634	619
United Kingdom	100% of first GBP2,000; 90% of next GBP33,000 (up to maximum of GBP31,700)	GBP85,000	GBP85,000	51967	130769	139978	51967	130769	139978	167	354	354
United States	USD100,000	USD250,000	USD250,000	100000	250000	250000	100000	250000 13/	250000	262	518	471
Uruguay	USD27,000	USD31,612	UYU685,525 21/	27000	31612	32050	27000	31612	32050	740	273	193
Uzbekistan	UZS1,360,000 17/	UNLIMITED 11/	UNLIMITED 11/	1389	UNLIMITED 11/	UNLIMITED 11/	1389	UNLIMITED 11/	UNLIMITED 11/	354	UNLIMITED 11/	UNLIMITED 11/
Venezuela, RB	BSF10,000	BSF30,000	BSF30,000	6211	8696	4774	6211	8696	4774	191	84	38
Vietnam	VND30,000,000	VND50,000,000	VND50,000,000	1935	2614	2369	1935	2614	2369	394	202	125
Yemen, Rep.	n.a.	YER2,000,000	YER2,000,000	n.a.	9109	9298	n.a.	9109	9298	n.a.	716	633
Zimbabwe	USD3,640	USD150	USD500	3640	150	500	3640	150	500	802	20	51

Notes: Coverage is all member countries with explicit deposit insurance schemes. Mauritania, Turkmenistan, and Uzbekistan are not included because of missing data. Marshall Islands and Micronesia are covered by the United States.



- 1/ On October 12, 2008, Australia announced an unlimited guarantee scheme for deposits in excess of A\$1 million, the Australian Government Guarantee Scheme for Large Deposits and Wholesale Funding (the Guarantee Scheme). The Guarantee Scheme was to remain in place for a period of three years, and was voluntary and subject to a fee (for deposits exceeding A\$ 1 million per person and bank). The Scheme formally commenced on 28 November 2008, and closed for new liabilities at the end of March 2010. Large deposits and wholesale liabilities guaranteed under the Scheme as at 31 March 2010 remained guaranteed, for a fee, for the relevant term. Separate deposit insurance arrangements continued to apply for deposit balances totaling up to and including A\$1 million per customer per institution, and were lowered to A\$250,000 from 1 February 2012 onwards. Such deposits are guaranteed without charge.
- 2/ Blanket guarantee introduced in 2008 expired at the end of 2010.
- 3/ Indonesia introduced explicit deposit insurance in 2004. The 2003 coverage limit refers to blanket guarantee in place.
- 4/ Malaysia introduced explicit deposit insurance in 2005. The 2003 coverage limit refers to blanket guarantee in place.
- 5/ Singapore announced on October 16, 2008 a blanket guarantee on deposits of individuals and non-bank customers of banks licensed in Singapore. The guarantee expired on December 31, 2010.
- 6/ An explicit guarantee system was introduced in August 2008 with the formation of the Deposit Protection Agency, replacing a blanket guarantee. The blanket guarantee is being gradually phased out with a limit of Baht 50 mln from Aug 11, 2012 - 10 Aug 10, 2015; Baht 25 million from Aug 11, 2015 - Aug 10, 2016; and Baht 1 mln for the period Aug 11, 2016 - onwards.
- 7/ 10% coinsurance for non-private persons.
- 8/ State-owned banks Belarusbank and Belagroprombank benefit from a full government guarantee on all their deposits, and do not make contributions to the Guarantee Fund. By Presidential decree of November 4, 2008. Belarus subsequently extended a full guarantee on all household deposits in all banks.
- 9/ On October 8, 2008, the Slovak government announced a blanket guarantee on deposits, which became effective as of November 1, 2009. Blanket guarantee expired at the end of 2010.
- 10/ Jordanian government issued a blanket guarantee on deposits in 2008, which expired end-2010.
- 11/ The President of the Republic of Uzbekistan issued a decree announcing a blanket guarantee on deposits on November 28, 2008. Blanket guarantee officially in place since October 12, 2009. Guarantee replaced statutory limit of 250 times the minimum wage. Guarantee still in place.
- 12/ Coverage limit in Chile refers to coverage of time deposits. Demand deposits are covered in full. Maximum coverage is equivalent to a maximum of 1,827,360 pesos in 2003, 2,317,199 pesos in 2010, and 2,466,801 pesos in 2013.
- 13/ Full guarantee for noninterest-bearing transaction accounts until December 31, 2012.
- 14/ Deposit insurance coverage increased from HKN400,000 to EUR100,000 on July 1, 2013 when Croatia joined the EU.
- 15/ Blanket guarantee on deposits in Mongolia expired on November 2012.
- 16/ A blanket guarantee on deposits was in place in Honduras from 1999 until September 2003. It was reduced to 50% coverage for October-November 2003 and increased back to 100% for December-September 2004, until the additional guarantee was phased out in September 2004. Between April and September 2004 there was a guarantee ceiling of 5 million Lempiras.
- 17/ The equivalent of 250 times minimum wage, which equaled UZS5,440 at end-2003.
- 18/ Coverage limit in Mexico is equivalent to 33,520,000 pesos in 2003, 2,023,492.40 pesos in 2010, and 2,023,492.40 pesos in 2013.
- 19/ Equivalent of 75 times monthly minimum wage.
- 20/ Equivalent of 62000 FSD.
- 21/ Equivalent of 250,000 UI for domestic currency deposits; US\$ 2500 for foreign currency deposits.

Sources: World Bank Survey, IADI, Laeven and Valencia (2012), FSB (2010, 2012), IMF staff reports, and national deposit insurance agencies.

### 2.1.3 Organization, administration, and type of deposit insurance scheme

We collect a host of information on the design features of deposit insurance schemes, and construct indicator variables based on this information. We first construct a variable *Explicit* takes a value of one if the country has explicit deposit insurance, and zero if implicit. Table 3 provides a detailed overview of the design features of DIS, including the organizational and administrative structure. In this table, design features when present are marked by “x”.

The organizational and administrative structures of DIS vary markedly, and this can have an important bearing on its independence and efficacy. DIS can be organized as a separate legal entity, or may be placed within a country’s supervisory structure or under the jurisdiction of the national central bank, or other government ministry such as the Ministry of Finance or Department of Treasury. These categories are mutually exclusive – any DIS must be legally separate or located within the central bank, banking supervisor, or government ministry. Some DIS are organized as separate legal entities but are hosted within and supported by the central bank. We code such DIS as legally separate. The variable *Organization* is coded one if the DIS is legally separate, and two if it is contained within the central bank, banking supervisor, or government ministry.

Countries may choose an explicit DIS that is administered privately, publicly, or jointly through some combination of the two. For example, Germany’s two statutory guarantee schemes have a mixed private/public component where they are privately administered but established in law and with public elements such as delegated public policy functions and oversight by the supervisory agency. This choice is often based on country-specific experience with historical banking failures and on whether private actors exist to potentially administer an explicit DIS (such as, for example, bankers’ associations in Switzerland). *Administration* is coded one if the DIS is administered privately, two if it is administered publicly, and three if it is administered jointly. These categories are mutually exclusive.

While all explicit DIS must include a “paybox” function that provides payout to depositors in the event of bank failure, countries may also decide to combine the DIS function with resolution functions or that of banking supervisor or macro-prudential regulator, referred to as “paybox plus.” Countries may also direct the DIS to minimize losses to the taxpayer, and provide it with the legal means to do so by granting DIS managers authority to create bridge banks, replace negligent bank managements, etc. Because the precise role of DIS schemes varies greatly worldwide, we classify DIS as paybox only or alternatively as a “paybox plus”, including loss or risk minimizer. These categories are mutually exclusive – DIS can either have a strict paybox role or have responsibilities beyond the paybox function. *Paybox* is coded one if the role of the DIS is paybox only, and two if it is a paybox plus, loss or risk minimizer.

Some countries have multiple statutory deposit insurance schemes for different types of financial institutions. These can be of a public or private nature, and in some cases mean that effective coverage exceeds that stipulated under the national scheme. *Multiple* is coded one if multiple schemes exist within a country, and zero if otherwise. The footnotes to Table 3 provide details on the names of DIS active in the country, as well the institutions they cover when

available. Our focus is the remainder of the paper is on the main statutory scheme in the country applying to private commercial banks.

#### 2.1.4 Participation and coverage

In a world where finance has become increasingly globalized, differences in coverage among domestic banks and foreign bank entities operating in the same country have become increasingly important. For example, during the crisis in Iceland, deposits in foreign branches of Icelandic banks, which according to EC Directive were to be covered by the Icelandic DIS up to the statutory minimum of Euro 20,000, were initially not honored by Iceland. Domestic banks are generally covered by the DIS, but country schemes vary as to whether the locally-chartered subsidiaries or locally-domiciled branches of foreign banks are covered by the domestic DIS. *Domestic banks* equals one if domestic banks are covered, and zero otherwise.

For some countries, such as the United States, the DIS does not base coverage on the home country of the foreign institution. Elsewhere, such as in EEA (European Economic Area) countries, the DIS extends coverage also to other countries but only within the EEA, with deposits in foreign branches being covered by the home-country deposit protection scheme of the bank and deposits in foreign subsidiaries being covered by the host-country deposit protection scheme. Deposits in branches of non-EEA banks are generally not covered by the EEA schemes. The variables *Foreign subsidiaries* and *Foreign branches* equal one if the local subsidiaries or, respectively, local branches of any foreign banks are covered, and zero otherwise.

The DIS typically does not extend the same coverage to all types of deposits. The variable *Foreign currency deposits* takes the value one if the DIS covers deposits denominated in any other currency than the official domestic currency, and zero otherwise. For some countries, this may include all other currencies, while for others, a limited number of foreign currencies may be covered. For example, while the DIS within the EU cover deposits in any of the currencies of EU member states, not all cover deposits in currencies of non-EU member states. For example, the DIS in Austria, Belgium, Germany, Lithuania, and Malta do not cover deposits in non-EU currencies. Countries also may set different coverage limits for deposits in domestic or foreign currencies. In most cases, payments on foreign currency bank deposits, if covered, are made in local currency.

Coverage of interbank deposits is less common than that of retail deposits, as it is often assumed that financial institutions are better equipped to monitor the riskiness of the institutions in which they place deposits than small retail depositors. However, in times of financial market stress, interbank deposits may be guaranteed to encourage the free flow of liquidity across banks. The variable *Interbank deposits* is one if interbank deposits are covered, and zero otherwise.<sup>1</sup>

Some DIS use coinsurance to limit coverage and strengthen market discipline. With coinsurance, depositors are insured for only a pre-specified portion of their funds (i.e., less than

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<sup>1</sup> In some countries, coverage could also exclude legal entities and central and local governments. We do not consider these exceptions.

100 percent of their insured deposits). For example, in a country with 20 percent co-insurance and a maximum coverage limit of \$100, depositors with less than \$125 would receive 80 percent of the money within their account. Depositors with any amount greater than \$125 (where 80 percent is the maximum of \$100) would receive only \$100. *Coinsurance* is one if the DIS has coinsurance, and zero otherwise. Table 3 reports information on the participation, types of deposits covered, and coinsurance of the different DIS around the world.

### 2.1.5 Funding

The primary function of a DIS is to prevent systemic bank runs. In order to do so, the DIS must be able to credibly claim that it can and will pay depositors in the event of bank failure. Countries can choose to fund potential payouts either ex ante or ex post. Most DIS with ex ante funding collect premiums on a scheduled basis, while ex post schemes collect funds from surviving institutions only when a covered bank fails and the available funds to cover depositors prove insufficient. These categories are mutually exclusive. *Funding* equals one if funding is ex ante and two if funding is ex post. Table 3 denotes whether the funding of the DIS is ex ante or ex post.

In addition to choosing between ex ante or ex post funding, DIS can also be funded by the government, privately by covered institutions, or jointly between the government and private actors. These categories are mutually exclusive. Countries such as Portugal with DIS primarily funded by participating banks that have had government funding provided are classified as funded jointly. *Funding source* is coded one if funding is by government, two if done privately, and three if done jointly. Government funding refers both to start-up and ongoing funding. In the case of ex post schemes, funding source refers to who pays the contributions to cover depositor payouts (typically the surviving banks). Backstop funding is considered separately in what follows. Depending upon a government's ability to collect taxes or issue new debt, government-funded schemes may credibly promise to address bank failures in a timely fashion, but they may face internal pressure to avoid paying out taxpayer funds in the event of a large failure. Privately-funded schemes may encourage peer monitoring among institutions, but may more easily run short of available funds to credibly pay out depositors in the event of systemic failures.

While the primary funding mechanism of a DIS may not be the government, some countries provide contingency plans in the case of a shortfall of funds to cover deposits that include government support. For some countries, this takes the form of pre-approved credit lines from the Department of Treasury. For others, the DIS can issue bonds or receive loans guaranteed by the government. *Backstop* is coded one if in legislation or regulation any such form of government support in case of a shortfall of funds explicitly exists, and zero otherwise. Government support includes only support from the central government, not support from the central bank.

### 2.1.6 Contributions and Assessment Base

Most DIS charge premiums on banks to cover payouts but the level of contributions and assessment base on which premiums are levied differ across countries. This is also the case

among EU countries where coverage levels (quantities) have been harmonized but not premiums (prices). In addition to raising funds to cover future payouts, some DIS use differential premiums to curb risk-taking by financial institutions. Procedures for assessing risk vary across countries. For example, in Italy, banks are first grouped into six risk categories using four indicators of bank risk and performance. Then, these risk categories are mapped into six different levels of risk-adjusted premiums. In Greece, starting in January 2009, annual premiums are adjusted by a risk coefficient that ranges between 0.9 and 1.1, as dictated by the bank's placement into one of three risk categories by the Bank of Greece. Risk assessment is based on measures of the bank's solvency, liquidity, and the efficiency of its internal control systems. *Risk-adjusted premiums* is coded one if premiums are adjusted for risk, and zero otherwise.

Countries can choose to assess premiums on a variety of bank balance-sheet items. *Assessment base* denotes the base over which premiums are assessed. We classify the assessment base of premiums into four mutually exclusive categories – covered deposits, eligible deposits, total deposits, and total liabilities. Eligible deposits refers to deposits repayable by the deposit insurance scheme, before the level of coverage is applied, while covered deposits are obtained from eligible deposits when applying the level of coverage. Table 3 provides information on the assessment base for individual DIS. The footnotes to Table 3 provide greater detail on the assessment base. For example, as stipulated by the Dodd-Frank Act the US FDIC changed the assessment base from total domestic deposits to average total assets minus tangible equity (i.e., Tier 1 capital), as a way to shift the balance of the cost of deposit insurance away from small banks to large banks that rely more on non-deposit wholesale funding.

### 2.1.7 Payouts to Depositors

The most common form of DIS coverage is coverage at the “per depositor per institution” level. However, some countries cover deposits per depositor, or per depositor account. Coverage per depositor account is more generous than coverage per depositor per institution because it allows depositors to increase their effective coverage by opening multiple accounts within the same institution, while coverage per depositor per institution is more generous than coverage per depositor because it allows depositors to increase their effective coverage by placing deposits in multiple institutions. Some countries, such as the United States, have coverage per depositor per institution for individuals, but treat joint accounts separately from individual accounts, such that individual depositors with joint accounts can double their effective coverage (relative to the statutory limit) within the same institution. *Payouts to depositors* is coded one if the coverage is per depositor account, two if per depositor per institution, and three if per depositor. The footnotes to Table 3 provide further details on payouts to depositors for countries with a more complicated structure.

Sometimes DIS have insufficient funds or otherwise impose losses on depositors (in nominal terms). We identify only three cases where substantial losses were imposed on insured deposits (including losses in nominal terms) despite the existence of explicit deposit insurance –

Argentina (1989 and 2001), and Iceland (2008).<sup>2</sup> *Deposit losses* is coded one for these countries, and zero otherwise. Further details about each episode are provided in the footnotes to Table 3.

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<sup>2</sup> We do not consider losses on uninsured deposits, including eligible deposits above the coverage limit. For example, in March 2013, Cyprus imposed substantial haircuts on uninsured depositors in the country's two largest banks, which were assessed to be insolvent, and one of which was subsequently wound down.



**Table 3. Design of Explicit Deposit Insurance Schemes Around the World, end-2013 (continued)**

As of 2013	Laos	Larvia	Lebanon	Libya	Lichtenstein	Lithuania	Luxembourg	Macedonia, FYR	Malaysia	Malta	Marshall Islands	Mexico	Micronesia	Moldova	Mongolia	Montenegro, Rep. of	Morocco	Nepal	Netherlands	Nicaragua	Nigeria	Norway	Oman	Paraguay	Peru	Philippines	Poland	Portugal	Romania	Russian Federation	Serbia	Singapore	Slovak Republic	Slovenia	Spain	Sri Lanka	Sudan	Sweden	Switzerland	Tajikistan	Tanzania	Thailand	Trinidad and Tobago	Turkey	Turkmenistan	Uganda	Ukraine	United Kingdom	United States	Uruguay	Uzbekistan	Venezuela, Rep. Bol.	Vietnam	Yemen, Republic of	Zimbabwe		
<i>Type of Deposit Insurance Scheme</i>																																																									
explicit	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
legally separate	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
central bank, supervisor, or ministry	x																																																								
administered publicly	x	x		x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x				x	x	x	x		x	x	x	x	x	x	x	x	x								x	x	x	x	x	x						
administered privately							x																x																																		
administered jointly			x																				x		x																																
paybox only			x	x				x	x						x	x	x			x																																					
paybox plus, loss or risk minimizer	x	x		x	x	x		x																																																	
multiple schemes											x	x															x	x	x	x																											
<i>Participation and Coverage</i>																																																									
compulsory for domestic banks	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
local subsidiaries of foreign banks	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
local branches of foreign banks	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
foreign currency deposits	x	x		x	x	x	x	x	x		x	x	x	x																																											
interbank deposits			x						x		x	x	x	x		x	x																																								
coinsurance					x																																																				
<i>Funding</i>																																																									
ex-ante fund	x	x	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
ex-post scheme				x			x													x																																					
funded by government																																																									
funded privately																																																									
funded jointly	x	x	x	x				x	x						x	x			x3/		x	x																																			
backstop 6/		x						x	x	x				x	x																																										
<i>Contributions and Assessment Base</i>																																																									
risk-adjusted premiums																																																									
assessment base 34/																																																									
covered deposits																																																									
eligible deposits		x																																																							
total deposits	x	x																																																							
total liabilities					x																																																				
<i>Payouts to Depositors</i>																																																									
per deposit account																																																									
per depositor per institution	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
per depositor																																																									
deposit losses imposed 21/																																																									

Notes: Table excludes voluntary and contractual schemes other than the national statutory scheme. Coverage is for all countries with explicit deposit insurance schemes. Information is as of 2013.

1/ Swedish National Debt Office.

2/ In 2011, the Netherlands adopted a regulation to transform its ex-post DGS into an ex-ante funded scheme with risk-based contributions, to come into effect on July 1, 2013.

3/ The Dutch Central Bank administers the scheme and pays out the depositors. The costs of the scheme are transferred (including the administrative costs) ex post to the members of the DGS, subject to an annual cap of 5% of own funds of each member. The ex post scheme will become an ex ante scheme on July 1, 2015.

4/ In case of a bank failure, the Bank of Slovenia temporarily assumes the obligation to pay the guaranteed deposits and then calls on other banks to contribute funds needed for the paying out of insured deposits. To ensure banks have sufficient liquid assets to contribute such funds, all banks are required to invest a minimum of 2.5% of insured deposits in debt securities that are eligible for the collateralization of Eurosystem receivables as defined by Bank of Slovenia.



- 5/ Initial contribution to the DGS fund provided by Banco de Portugal.
- 6/ In the case of a shortfall of funds, the DGS can issue bonds/receive loans guaranteed by the government, or may access funding from the Central Bank or Ministry of Finance.
- 7/ Deposit Insurance Corporation of Japan and Agricultural and Fishery Cooperative Savings Insurance Corporation.
- 8/ Separate deposit insurance schemes exist for banks and cooperative financial institutions.
- 9/ Einlagensicherung der Banken & Bankiers GmbH (Deposit Protection Company of the Austrian Commercial Banks Ltd), HYPO Haftungs GmbH, Sparkassen-Haftungs AG, Österr. Raiffeisen-Einlagensicherung reg GenmbH, and Schulze-Delitzsch-Haftungsgenossenschaft regGenmbH.
- 10/ Deposit Protection Scheme and the Deposit Protection Scheme for Co-operative Societies.
- 11/ Entschädigungseinrichtung des Bundesverbandes Öffentlicher Banken Deutschlands GmbH (Compensatory fund of the Association of German Public Sector Banks), Entschädigungseinrichtung deutscher Banken GmbH (The German Private Commercial Banks Compensation Scheme for Depositors and Investors), Sicherungseinrichtung des Bundesverband der Deutschen Volksbanken und Raiffeisenbanken (Protection Scheme of National Association of German Cooperative Banks), Haftungsverbund der Sparkassen-Finanzgruppe (Joint Liability Scheme of the Sparkassen-Finanzgruppe).
- 12/ Fondo Interbancario di Tutela dei Depositi (Interbank Deposit Protection Fund), Fondo di Garanzia dei Depositanti del Credito Cooperativo (Deposit Guarantee Fund of Cooperative Credit Banks).
- 13/ Bank Guarantee Fund and Polish Cooperative Savings and Credit Union Mutual Insurance Society.
- 14/ Fundo de Garantia de Depósitos (Deposit Guarantee Fund) and Fundo de Garantia do Crédito Agrícola Mútuo (Mutual Agricultural Credit Guarantee Fund).
- 15/ Fondo de Garantía de Depósitos en Establecimientos Bancarios (Deposit Guarantee Fund For Banking Establishments), Fondo de Garantía de Depósitos en Cooperativas de Crédito (Deposit Guarantee Funds for Credit Cooperative Banks Establishment), Fondo de Garantía de Depósitos en Cajas de Ahorro (Deposit Guarantee Funds for Savings Banks Establishment).
- 16/ Fundo Garantidor de Crédito (FGC) cover deposits at banks, as well as private deposit insurance schemes for credit unions.
- 17/ Canada Deposit Insurance Corporation, Autorité des Marchés Financiers, and provincial-level funds primarily for credit unions.
- 18/ Fondo de Garantías de Instituciones Financieras and Fondo de Garantías de Entidades Cooperativas, for banks and cooperatives, respectively.
- 19/ Jamaica Deposit Insurance Corporation and Jamaica Co-operative Credit Union League.
- 20/ Federal Deposit Insurance Corporation, National Credit Union Share Insurance Fund, and previously the Federal Savings and Loan Insurance Corporation for commercial banks, credit unions, and savings and loans, respectively.
- 21/ We consider only cases of insured depositor losses where there was explicit deposit insurance. As defined, we identify only three cases. Argentina (1989): Losses were imposed on time deposits when time deposits at BONEX were converted into long-term bonds at an exchange rate below the prevailing on the market. Argentina (2001): Dollar deposits were converted into domestic currency at ARG\$1.4, which was below the prevailing market rate. Iceland (2008): Losses imposed on depositors of foreign branches of the major Icelandic banks that failed (primarily in the Netherlands and UK), even though these deposits were explicitly covered under EU directives.
- 22/ In 2008, uninsured depositors of IndyMac, which entered receivership, are likely to face losses because the asset value of the receivership is insufficient to cover all uninsured deposits; so far they have received an advance dividend in the amount of 50% of their uninsured deposits from the FDIC.
- 23/ In 1994, depositors at Banco Latino with more than B 10m received long-term non-negotiable bonds with interest rate below market, for the amount exceeding the 10mln threshold.
- 24/ Total deposits without government deposits and interbank deposits.
- 25/ The difference to the maximum insured amount is always topped-up by the Federal Minister of Finance. Furthermore, the DIS can issued bonds with repayment guaranteed by the government.
- 26/ The DIS can borrow from the Reserve Bank of India.
- 27/ Banks are required to make up the shortfall but this is limited in any one year to the annual contribution. Any initial shortfall beyond this would be covered by the Government but would be recouped from the banks in subsequent years.
- 28/ The FDIC has a significant line of credit with the U.S. Treasury Department. In addition, in order to replenish the Deposit Insurance Fund, the FDIC can order special assessments on insured banks in addition to their regular assessments.
- 29/ The amalgamation of cooperative banks is considered to be a single institution.
- 30/ Deposit insurance coverage is calculated per depositor per institution and per ownership category. The ownership categories are: individual accounts, joint accounts, company/corporate accounts, trust accounts, nominee accounts.
- 31/ Deposit insurance coverage is based on ownership rights and capacities at any given insured depository institution. For example, a depositor may have a Single Account, which is covered up to the deposit insurance maximum and also a Joint Account, which also is covered up to the deposit insurance maximum per co-owner.
- 32/ Coverage of time deposits is per depositor and for demand deposits is per deposit account.
- 33/ Average total assets minus tangible equity (since April 1, 2011; prior to that, total domestic deposits).
- 34/ Total liabilities refers to the bank's total liabilities (i.e., deposits and other liabilities). Total deposits refers to the total deposits held by the bank. Eligible deposits refers to deposits repayable by the deposit insurance scheme, before the level of coverage is applied. Covered deposits refers to deposits that are covered, obtained from eligible deposits when applying the level of coverage provided for by the deposit insurance scheme.
- 35/ In addition to payout, the FSCS plays several roles in the special resolution regime, including informing decisions on the selection of tools, supporting the implementation of the bank insolvency procedure, and making contributions towards the cost of resolution.
- Sources: European Commission, International Association for Deposit Insurers, Financial Stability Board (2010, 2012), FDIC, Laeven and Valencia (2012), IMF staff reports, and national deposit insurance agencies.

## 2.2 Recent Changes to Depositor Protection

A number of DIS have made recent changes to depositor protection, often in response to the global financial crisis that started in 2007. Against this background, we also collect information on whether the country experienced a banking crisis between 2007 and 2012.

**Banking crisis date** denotes the year that the country experienced a banking crisis. Banking crisis dates for the period 2007-2011 are according to Laeven and Valencia (2012). Cyprus is added to this list as of 2012. Table 4 shows all countries in the sample that experienced a banking crisis between 2007 and 2012.

### 2.2.1 Introduction of deposit guarantee scheme

During the financial crisis period, several countries introduced explicit deposit insurance schemes (e.g., Australia and Singapore), or transitioned from unlimited government guarantees already in place before the onset of the crisis into an explicit DIS with capped coverage limits (e.g., Thailand). **Introduction** is coded one if the country introduced an explicit deposit insurance scheme during the period 2008-2013, and zero otherwise. This information is also reported in Table 4.

### 2.2.2 Increase in statutory deposit coverage

Many countries raised coverage limits during the crisis. For some, raising coverage was a result of ex ante decisions to index coverage limits to inflation-adjusted units, currency pegs, or measures of income such as a multiple of the minimum wage. For other countries, coverage limits were raised to discourage deposit outflows from the banking system. Within the EU in particular, policies emphasizing convergence and harmonization in deposit insurance coverage limits across countries resulted in large coverage increases. Other countries expanded the range of accounts covered to include foreign currency or interbank deposits. **Increase in coverage** is coded one if there was increase in coverage limits during the period 2008-2013, and zero otherwise. Table 4 specifies all countries that introduced temporary increases in coverage during the recent financial crisis.

### 2.2.3 Abolishment of co-insurance

In the pre-crisis period, co-insurance had gained popularity in some countries as a way to preserve the financial stability benefits of an explicit DIS, while preserving some of the monitoring incentives inherent in a system without formal coverage of deposits. During the crisis, this disciplining mechanism proved politically difficult to maintain. Sixteen countries had co-insurance in 2003 – by 2010, only three remained. **Abolished coinsurance** is coded one if co-insurance was abolished during the period 2008-2013, and zero otherwise. Table 4 shows all countries that abolished coinsurance.

### 2.2.4 Government guarantee on deposits

Alongside increases in the statutory coverage of deposits, several countries instituted a temporary unlimited guarantee on deposits. *Government guarantee on deposits* is coded one if a (partial or full) government guarantee on deposits was put in place during the period 2008-2013, and zero otherwise. Information on government guarantees on deposits can be found in Table 4. Further details on specific deposit guarantees are provided in the footnotes to Table 4. We distinguish between whether the deposit guarantee covered only some deposits (*Limited*) or all deposits (*Full*), and indicate the year when the guarantee was introduced (*In place*) and when the guarantee expired (*Expired*).

### 2.2.5 Government guarantee on non-deposit liabilities

In addition to providing extended coverage for deposit accounts, many countries that experienced a systemic banking crisis during the global financial crisis extended guarantees on the non-deposit liabilities of financial institutions. For some countries, the guarantees were limited to a small number of major institutions (Ireland). Other countries guaranteed specific debt classes, or only new debt issuances (Republic of Korea, United States), while others provided unlimited guarantees (Australia). *Guarantee on non-deposit liabilities* is coded one if there were government guarantees applied to non-deposit liabilities during the period 2008-2013, and zero otherwise. Information on government guarantees on non-deposit liabilities can be found in Table 4. Further details on the types of non-deposit guarantees are provided in the footnotes to Table 4.

### 2.2.6 Government guarantee on bank assets

In addition to guaranteeing bank deposits and other bank liabilities, some governments also resorted to guaranteeing particular asset classes of banks' balance sheets. For example, the governments of the Netherlands and Switzerland guaranteed the asset values of some hard-to-value assets on the balance sheets of ING and UBS, respectively. *Guarantee on bank assets* is coded one if there were government guarantees on banking assets during the period 2008-2013, and zero otherwise. Information on government guarantees on bank assets can be found in Table 4.

### 2.2.7 Significant nationalizations of banks

Government intervention during the financial crisis also included the government taking control over financial institutions through nationalizations. *Significant nationalization of banks* is coded one if there was significant nationalization of banks and other financial institutions since 2008. Nationalizations are defined broadly to include explicit nationalizations as well as cases where the government takes control over financial firms through the acquisition of a majority ownership stake or by placing government-sponsored enterprises into receivership.<sup>3</sup> We identify

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<sup>3</sup> For example, nationalizations of financial institutions in the United States include putting Fannie Mae and Freddie Mac into receivership and the government acquiring a majority stake in AIG.

17 countries where a significant portion of the financial system was nationalized since 2008 (including, for example, Belgium, Iceland, Ireland, the Netherlands, the United Kingdom, and the United States). While coverage limits may not have explicitly increased, nationalization implies an implicit government backstop of all deposits within these institutions (and a reduction in counterparty risk to these institutions for the rest of the financial system), as well as a contingent future liability for these national governments. Information on significant nationalizations of banks can be found in Table 4.



Table 4. Recent Changes to Depositor Protection, 2007-2013 (continued)

As of 2013	Lebanon	Libya	Liechtenstein	Lithuania	Luxembourg	Macedonia	Malaysia	Malta	Mauritania	Mexico	Moldova	Mongolia	Montenegro, Rep. of	Morocco	Nepal	Netherlands	Nicaragua	Nigeria	Norway	Oman	Paraguay	Peru	Philippines	Poland	Portugal	Romania	Russia	Serbia, Republic of	Singapore	Slovak Republic	Slovenia	Spain	Sri Lanka	Sudan	Sweden	Switzerland	Tajikistan	Tanzania	Thailand	Trinidad and Tobago	Turkey	Turkmenistan	Uganda	Ukraine	United Kingdom	United States	Uruguay	Uzbekistan	Venezuela, Rep. Bol.	Vietnam	Yemen, Republic of	Zimbabwe		
Experienced banking crisis between 2007 - 2013 1/				x								x				x									x		x																											
Increase in deposit protection since 2008																																																						
introduction of DIS	x	x							x			x																																										
increase in statutory DIS coverage			x	x	x				x	x 9/			x								x 11/	x 9/	x	x	x	x	x	x		x	x	x												x	x 12/			x						
government guarantee on deposits							23/					x																																										
abolished co-insurance				x	x															x																																		
Government guarantees on bank deposits since 2008																																																						
limited																																																						
unlimited							23/				x 13/																																											
-- in place since											2008																																											
-- expired in											2012																																											
Government guarantees on non-deposit liabilities since 2008			x	8/	24/																																																	
Government guarantees on bank assets since 2008																	x																																					
Significant nationalizations of banks since 2008			x																																																			

Notes: While they do not have explicit deposit insurance schemes, Kuwait, Saudi Arabia, and the United Arab Emirates extended a government guarantee on deposits during the financial crisis.

1/ Banking crisis dates for the period 2007-2011 according to Laeven and Valencia (2012). Cyprus is added to this list as of 2012.

2/ Coverage extended to include foreign currency deposits.

3/ Covering only private savings accounts.

4/ On September 29, 2010, the Credit Institutions Financial Support Scheme 2008, which provided a blanket guarantee of bank liabilities and was introduced by the Minister on September 20, 2008, expired. This blanket guarantee was succeeded by the Credit Institutions Eligible Liabilities Guarantee Scheme which was officially commenced on December 9, 2009 and which applied to 7 major Irish credit institutions. The Eligible Liabilities Guarantee Scheme was due to expire at the end of 2012 but was extended and expired on March 28, 2013. Limited to almost all liabilities of seven major Irish financial institutions.

5/ The government guaranteed insured deposits up to the existing coverage limit in full should the insurance fund run out of funds.

6/ Excluding subordinated debt. Expired on October 10, 2010.

7/ For checking accounts only.

8/ Government guarantee of new debt issuance by banks.

9/ Indexed to inflation, so coverage increases are automatic.

10/ When Italy joined the EU, the coverage was ITL 200 million. This translated into EUR103291. Since 2010, Italy's coverage has been reduced to EUR100000, in line with the harmonized level of deposit insurance coverage as embodied in the 2009/14/EC directive.

11/ Indexed to minimum wage.

12/ Indexed.

13/ On November 25, 2008, the Government of Mongolia issued a blanket deposit guarantee under the Law of Mongolia on Issuing a Guarantee for Savings held at Banks ("Deposit Guarantee Law"). This blanket guarantee had been issued amidst the financial crisis in 2008. The Deposit Guarantee Law expired on 25 November 2012 and was replaced with the introduction of an explicit deposit insurance scheme.

14/ In addition to expanding deposit insurance coverage, the National Monetary Council allowed banks to issue a special time deposit guaranteed by the deposit insurance agency (FGC) for the issuance of securities.

15/ On October 12, 2008, Australia announced an unlimited guarantee scheme for deposits in excess of A\$1 million (the Guarantee Scheme). The Scheme formally commenced on 28 November 2008, and closed for new liabilities at the end of March 2010. Large deposits and wholesale liabilities guaranteed under the Scheme as at 31 March 2010 remained guaranteed, for a fee, for the relevant term. Separate deposit insurance arrangements continued to apply for deposit balances totaling up to and including A\$1 million per customer per institution, and were lowered to A\$250,000 from 1 February 2012 onwards. Such deposits are guaranteed without charge.

16/ On October 8, 2008, the Slovak government announced a blanket guarantee on deposits, which became effective as of November 1, 2009. Blanket guarantee expired at the end of 2010.

17/ Jordanian government issued a blanket guarantee on deposits in 2008, which expired end-2010.

18/ The President of the Republic of Uzbekistan issued a decree announcing a blanket guarantee on deposits on November 28, 2008. Blanket guarantee officially in place since October 12, 2009. Guarantee still in place.

19/ Blanket guarantee introduced in 2008 expired at the end of 2010.

20/ Singapore announced on October 16, 2008 a blanket guarantee on deposits of individuals and non-bank customers of banks licensed in Singapore. The guarantee expired on December 31, 2010.

21/ State-owned banks Belarusbank and Belagroprombank benefit from a full government guarantee on all their deposits, and do not make contributions to the Guarantee Fund. By Presidential decree of November 4, 2008. Belarus subsequently extended a full guarantee on all household deposits in all banks.

22/ In October 2008, the Austrian government announced a blanket guarantee on retail deposits. The guarantee expired end-2009. In addition, as part of the Austrian Guarantee Scheme for Bank Lending announced on October 13, 2008, the Austrian government issued a limited guarantee on new bond issues by banks.

23/ Full government guarantee on deposits already in place.

24/ ForDexia only.

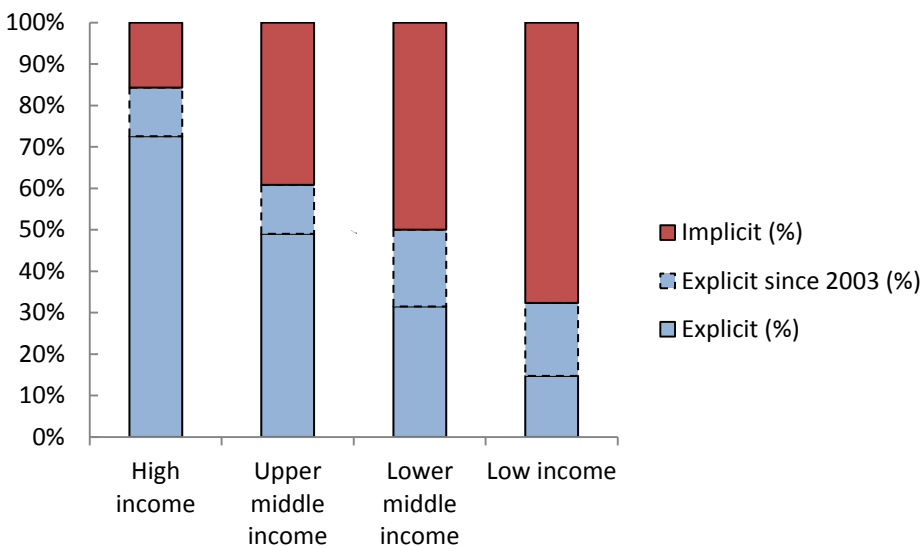
Sources: European Commission, Laeven and Valencia (2012), and national deposit insurance agencies.

### 3. MAIN FEATURES OF DEPOSIT INSURANCE SCHEMES AROUND THE WORLD

The number of countries with explicit deposit insurance schemes has continued to increase. Out of 189 countries covered, 112 countries (or 59 percent) had explicit deposit insurance by year-end 2013, having increased from 84 countries (or 44 percent) in 2003. The 2008 global financial crisis contributed to this trend, with 5 countries adopting deposit insurance in the year 2008 alone. Australia, long an advocate of implicit deposit insurance, was a notable example among those countries that joined the ranks of those with explicit deposit insurance in 2008. Another force has been the EU-driven harmonization process of deposit insurance, which spurred the adoption of explicit deposit insurance throughout Central and Eastern Europe.

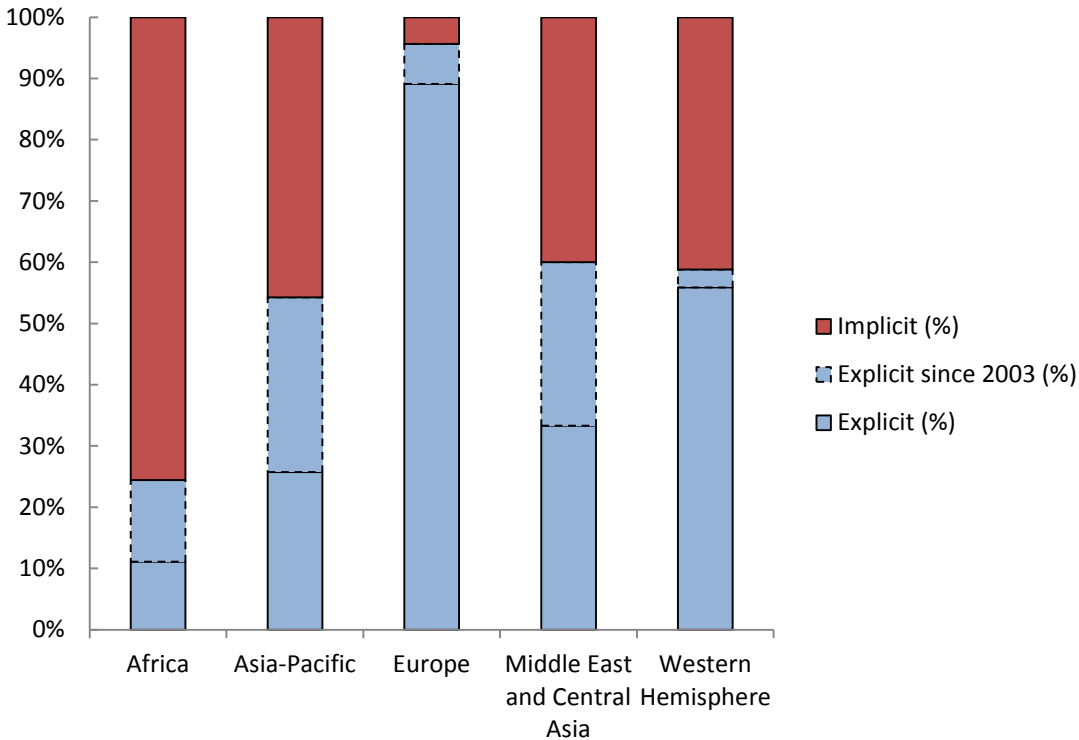
Deposit insurance is particularly widespread among high income countries. About 84 percent of countries with high incomes had explicit deposit insurance by year-end 2013. Israel and San Marino are notable exceptions among high income countries with implicit deposit insurance. Explicit deposit insurance is less widespread among low income countries, at about 32 percent of countries (see Figure 1).

**Figure 1. Explicit Deposit Insurance by Income Group, 2013**



Similarly, there is regional variation in the existence of explicit deposit insurance. In Europe, almost all countries (or 96 percent of countries) have deposit insurance (the only two exceptions are Israel and San Marino). Explicit deposit insurance is less widespread in other parts of the world, with only 24 percent of countries in Africa having explicit deposit insurance (see Figure 2).

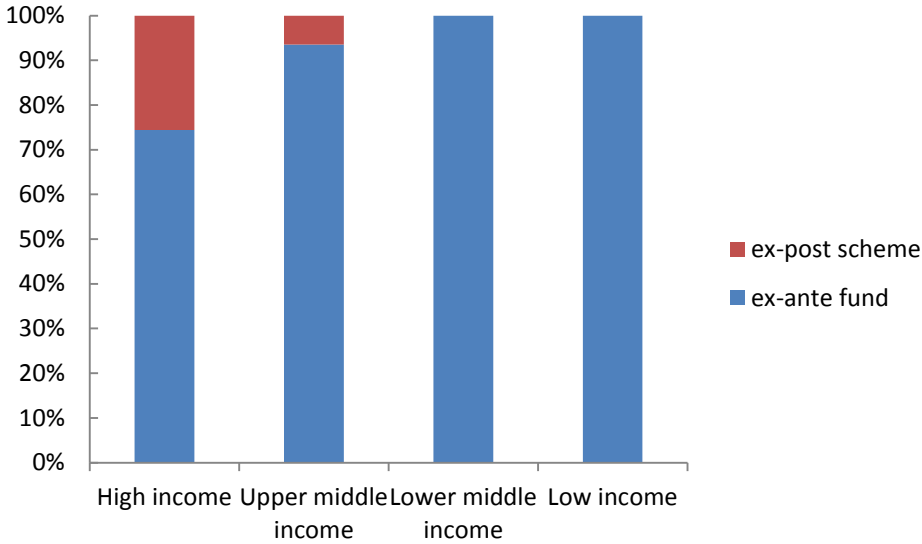


**Figure 2. Explicit Deposit Insurance by Region, 2013**

Deposit insurance schemes also vary markedly in how they are designed. Table 3 lists the main features of existing deposit insurance schemes, with countries listed alphabetically. Most explicit deposit insurance schemes are pre-funded, an arrangement that is commonly described as an ex ante scheme, and contrasted with an ex post scheme. Ex ante schemes maintain a fund that typically receives and accumulates contributions from covered banks. Ex post schemes, on the other hand, collect premiums from surviving banks only if payouts from the scheme occur, i.e., if a bank is declared insolvent and depositors need to be reimbursed. Of all countries with explicit deposit insurance, 88 percent have an ex ante scheme (Figure 3). Ex post schemes exist in about one-fourth of high income countries but are altogether absent in low income and lower middle income countries. Notable examples are Austria, Chile, Italy, the Netherlands, Switzerland, and the UK.<sup>4</sup>

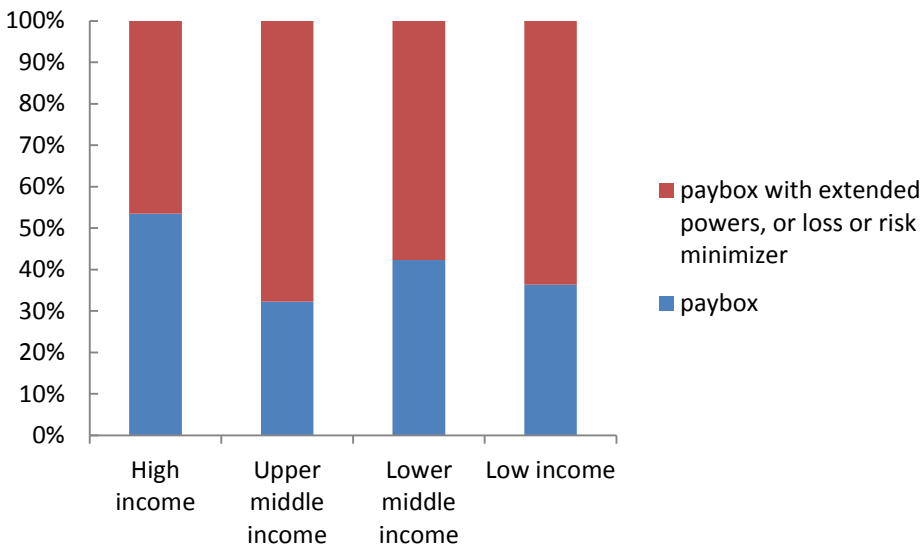
**Figure 3. DI Fund, 2013**

<sup>4</sup> In 2011, the Netherlands adopted a plan to transform its ex post DIS into an ex ante funded scheme with risk-based contributions. This transformation is scheduled to come into effect on July 1, 2015.



The purpose of many deposit insurance funds is simply to reimburse insured depositors in the event of bank insolvency. Such a fund is known as a paybox. Other funds have additional responsibilities, varying from licensing of banks, supervisory authority, and ability to collect information from banks. About 43 percent of all deposit insurance funds in ex ante schemes are a paybox, while the remaining 57 percent of funds have extended powers or responsibilities, including a responsibility to minimize losses or risks to the fund (Figure 4).

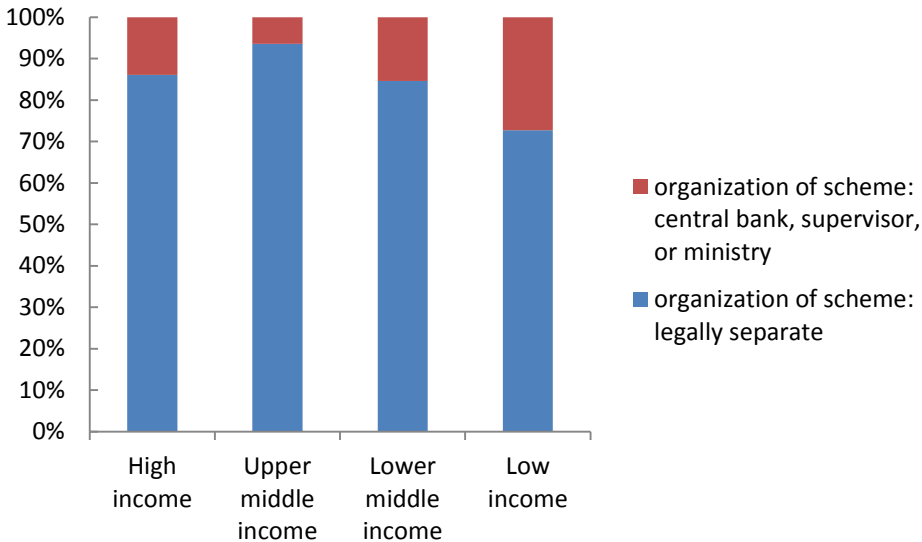
**Figure 4. Objective of the DI Scheme, 2013**



The majority of explicit schemes are legally separate from the central bank, banking supervisory agency, or ministry of finance, even though they may be “housed” within such

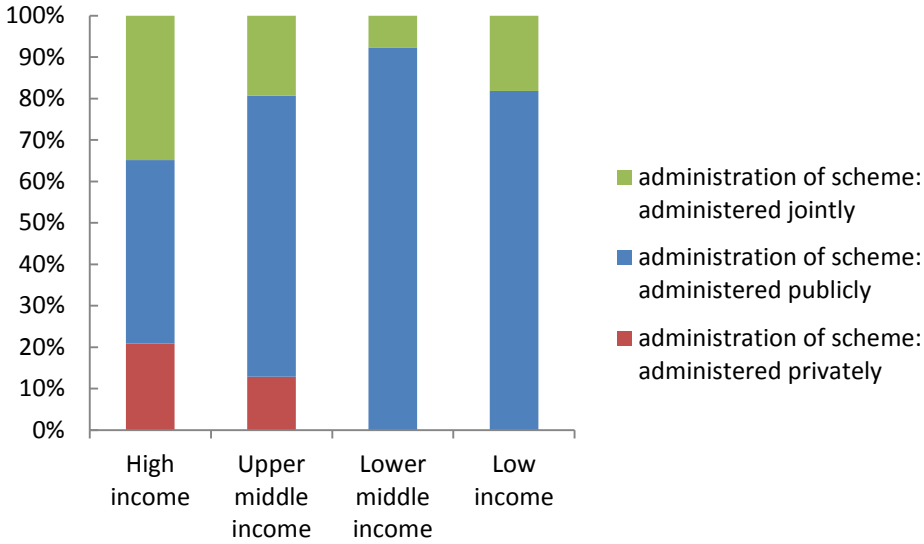
institutions; only a minority of 14 percent of schemes is not legally separate from these government institutions (Figure 5). This number varies by income level, and is slightly higher in low income countries (27 percent).

**Figure 5. Organization of the DI Scheme, 2013**



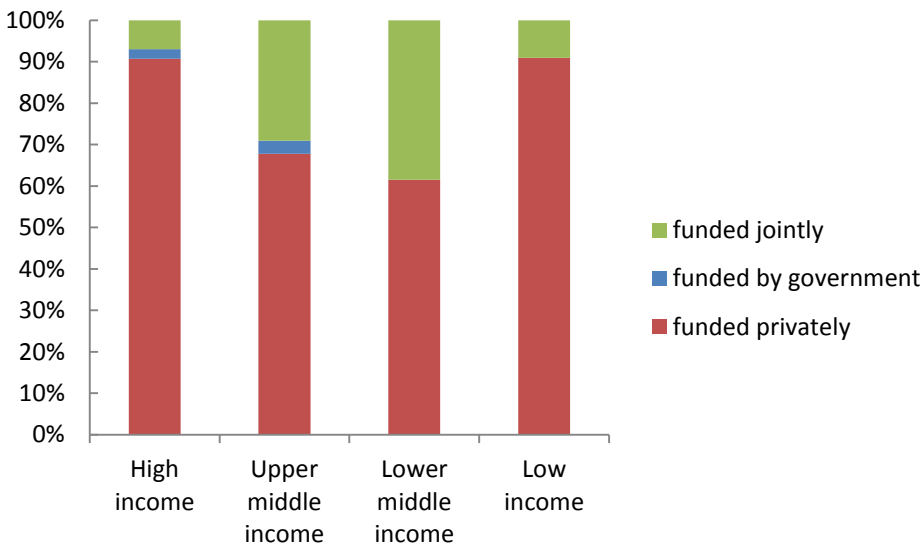
Most deposit insurance schemes are administered publicly (about 66 percent of all schemes) but there is wide variation across countries' income levels. In low income countries, 82 percent of all schemes are administered publicly. In high income countries, on the other hand, only 44 percent of schemes are administered publicly, while 21 percent of schemes are administered privately (by covered banks), while the remaining 35 percent of schemes are administered jointly between the public and private sectors (Figure 6).

**Figure 6. Administration of the DI Scheme, 2013**



Funding of deposit insurance schemes derives primarily from contributions from the insured banks, although some schemes are funded in part or in whole by their government. Joint funding typically consists of start-up capital provided by the government with ongoing contributions from participating banks. 77 percent of all schemes are funded privately, while 2 percent of schemes are funded exclusively by the government, and the remaining 21 percent of schemes are funded jointly. However, there is substantial variation across countries, with 91 percent of schemes in high income countries being funded by the private sector (Figure 7).

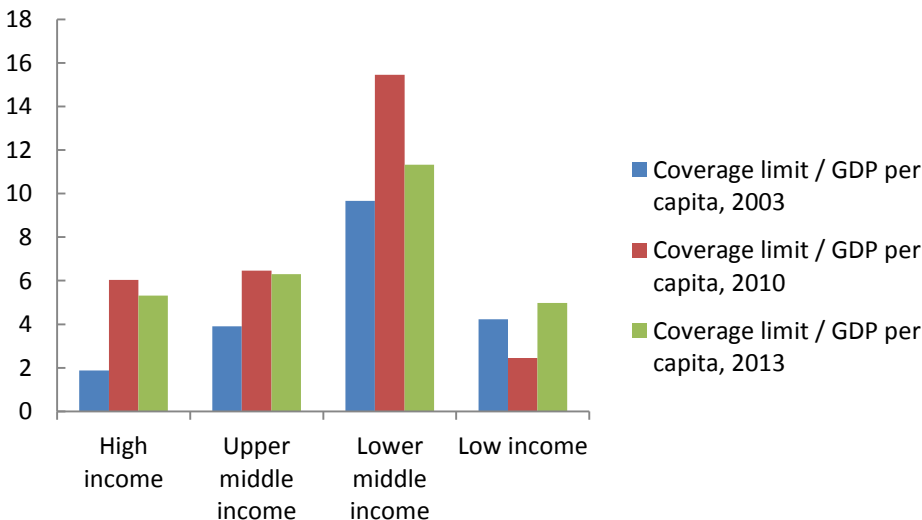
**Figure 7. Funding of the DI Scheme, 2013**



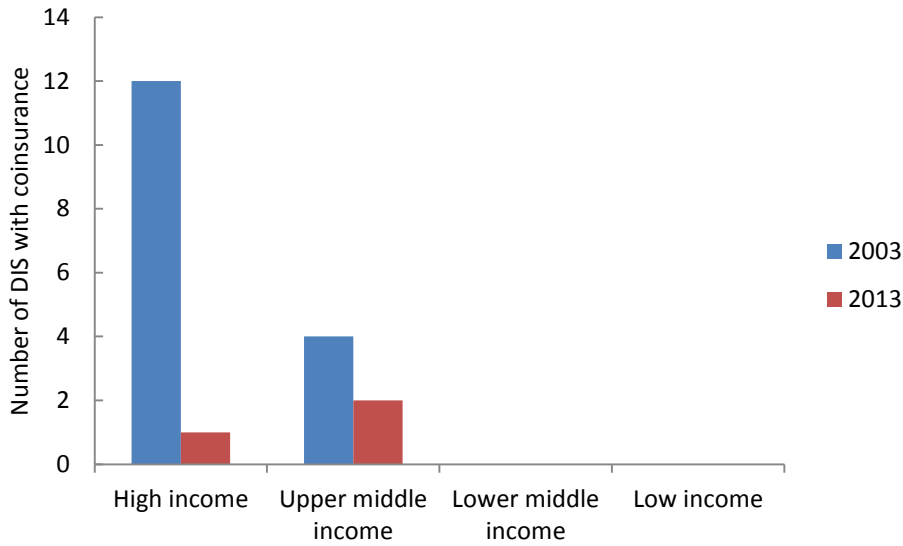
Coverage limits also vary markedly across countries, both in absolute level and relative to per capita income, especially when other government guarantees are accounted for (see Table 2 and Figure 8). For example, statutory coverage limits range from a low of US\$460 in Moldova to highs of US\$250,000 in the United States, US\$327,172 in Norway, US\$1,523,322 in Thailand (where a blanket guarantee on deposits is being phased out), and full guarantees on deposits in Turkmenistan and Uzbekistan.

Figure 8 shows that coverage increased sharply during the recent financial crisis (in part reflecting the announcement of government guarantees on deposits) and was subsequently reduced, although coverage levels on average remain above pre-crisis levels. By end-2013, coverage limits on average amount to 5.3 times per capita income in high income countries, 6.3 times per capita income in upper middle income countries, 11.3 times per capital income in lower middle income countries, and 5.0 times per capita income in low income countries.

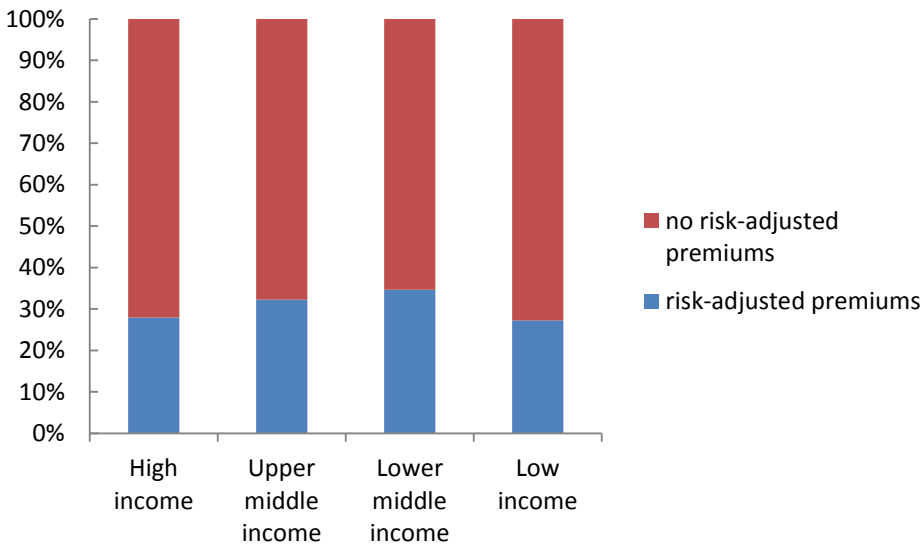
**Figure 8. Coverage Increased During Crisis and Remains Above Pre-Crisis Levels**



Co-insurance, while relatively common prior to the recent financial crisis, has almost disappeared as a feature of deposit insurance schemes, despite its loss-sharing appeal. The reason is that co-insurance rules were not enforced during the crisis to avoid imposing any losses on small depositors. It was feared that such losses might jeopardize depositor confidence and financial stability generally. Once the crisis abated, these co-insurance rules – having lost credibility – have not been reintroduced. While in 2003 a total of 16 deposit insurance schemes had co-insurance, this number dwindled to 3 by the end of 2013 (Figure 9). The only three remaining schemes with coinsurance are those of Bahrain, Chile, and Libya.

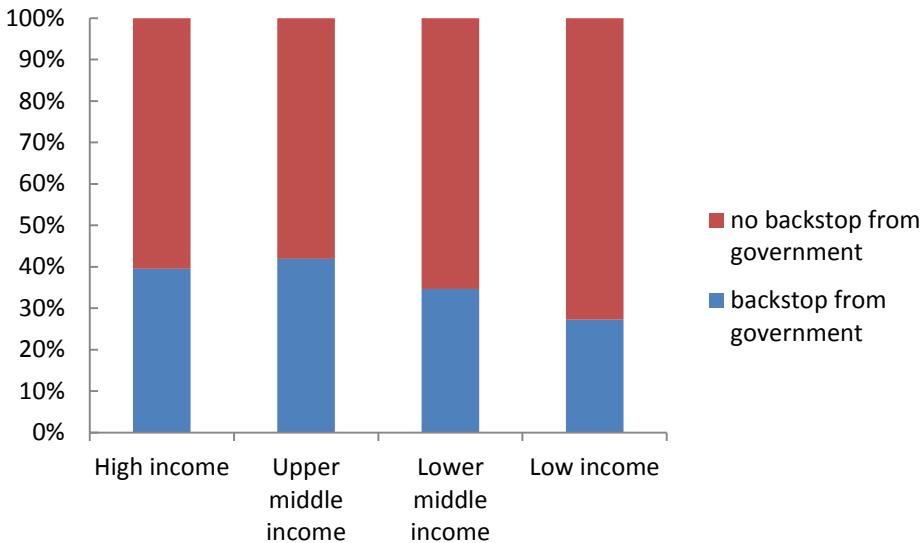
**Figure 9. Decline of Coinsurance, 2003–2013**

Adjusting deposit insurance premiums for risk, on the other hand, has been on the rise. By end-2013, 31 percent of schemes adjusted premium contributions for risk (Figure 10). There is not much variation across income levels in the use of risk adjustments. Risk assessment methods varied widely across countries, though.

**Figure 10. Risk Adjustment of DI Premiums, 2013**

Many deposit insurance schemes (about 38 percent of all schemes) enjoy government backstops in case of a shortfall in funds, mostly in the form of credit lines or guarantees on debt issuances from the Treasury (Figure 11). The presence of such backstops is slightly higher in high income countries that tend to be in a better position to afford such guarantees (although this depends on the size of the financial sector in these countries).

**Figure 11. Government Support of DI Schemes, 2013**



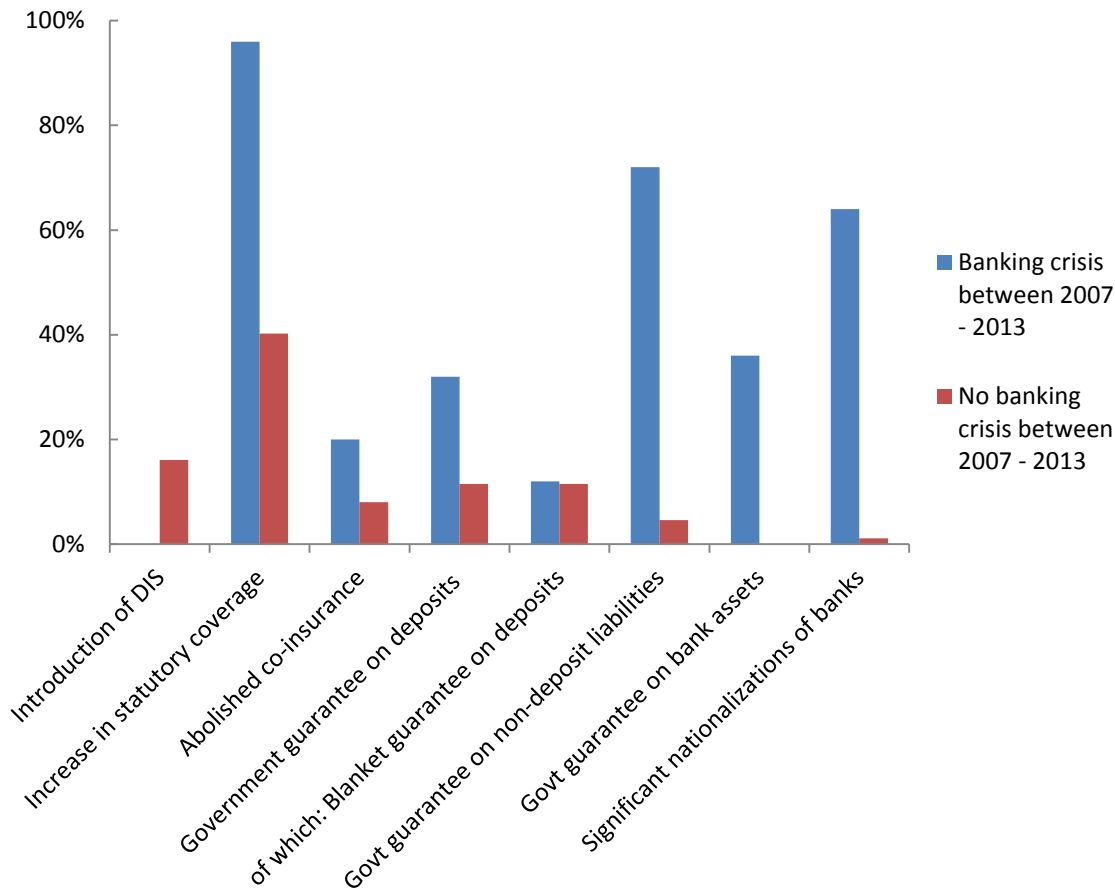
#### 4. DEPOSITOR PROTECTION DURING THE GLOBAL FINANCIAL CRISIS

##### 4.1 Changes in Depositor Protection During the Global Financial Crisis

In an effort to contain the fallout from the global financial crisis, many countries expanded their financial safety net, both by increasing coverage of deposit insurance and by extending government guarantees to non-deposit liabilities (and in some cases on bank assets).

Figure 12 summarizes the increase in deposit protection since 2008, reporting the percentage of countries that either introduced an explicit deposit insurance scheme or expanded deposit protection in one of six ways: (a) increasing statutory coverage; (b) abolishing co-insurance; (c) introducing a government guarantee on deposits (either limited or full); (d) introducing a government guarantee on non-deposit liabilities; (e) introducing a government guarantee on bank assets; or (f) undertaking significant nationalizations of banks. We report these actions separately for crisis and non-crisis countries.

**Figure 12. Increase in Depositor Protection, 2007–2013**  
 % of countries with explicit DIS



The expansion of the safety net was substantial, especially for crisis countries, and extended beyond traditional deposit insurance. Fourteen countries introduced explicit deposit insurance since 2008, and almost all countries with explicit deposit insurance that experienced a banking crisis over this period increased the statutory coverage limit in their deposit insurance scheme (96 percent of countries to be precise). Government guarantees on deposits were introduced in 32 percent of countries with deposit insurance and experiencing a banking crisis. 38 percent of these deposit guarantees were blanket guarantees, guaranteeing deposits in full. Government guarantees on bank liabilities were particularly widespread, especially among countries with deposit insurance experiencing a banking crisis (72 percent of these countries extended guarantees on bank liabilities). These guarantees varied from extending guarantees on debt issuances to blanket guarantees on all debt liabilities. Government guarantees on bank assets were used in 36 percent of countries with deposit insurance experiencing a banking crisis. Bank nationalizations were also widespread, occurring in 64 percent of countries with deposit insurance experiencing a banking crisis.

A number of insights can be gained from the crisis experience: Together with central bank action in the form of extensive liquidity support and monetary easing, deposit insurance schemes contributed to preventing open bank runs. For example, extensive liquidity support to



banks from the Federal Reserve combined with a credible fiscal backstop from the US Treasury to the FDIC prevented a generalized run from FDIC-insured bank deposits into currency. Federally uninsured savings in money market funds with reported a stable \$1 net asset value had a very different experience. Accounts in these funds became federally insured temporarily when the crisis intensified in September 2008. Money market funds experienced massive outflows (mainly into US banks) once it became publicly known (on September 16, 2008) that the Reserve Primary Fund was in trouble. And in Europe, despite diverging macroeconomic fundamentals between the core and the periphery of the eurozone countries, insured bank deposits remained remarkably stable in most countries, with the exception of (1) isolated bank runs (Northern Rock in the UK and DSB Bank in the Netherlands) that were quickly contained, (2) a slow moving “run” on deposits in Greece on the back of growing fears of a euro breakup (total deposits declined by about 20 percent between 2010 and 2012), and (3) a generalized run in Cyprus where authorities had declared that a tax on insured deposits could be imposed (although this eventually did not materialize).

However, runs on uninsured deposits and non-deposit liabilities were widespread. For example, there was a significant run on wholesale deposits and a repo run on broker dealers in the US. These runs created severe stress in bank funding markets that had come to increasingly rely on short-term wholesale funding. This interconnectivity between banks and markets implies that funding shocks in capital markets can quickly spill over to banks and funding shocks to banks can spill over into capital markets, threatening the stability of the financial system and the real economy. The systemic risk that spillovers pose underscores the dangers of insuring wholesale deposits and deposit-like instruments and extending the perimeter of the financial safety net to nonbanks.

At the same time, many DIS were inadequately designed to stem the buildup of risk in the banking system either by nurturing market discipline or by seeking compensation for the risks being transferred to them. Co-insurance, a way to introduce market discipline, was largely phased out by most countries prior to the crisis. Nor did DIS premiums adequately reflect tail risk, effectively subsidizing potentially ruinous risk taking by banks.<sup>5</sup> For example, about 97 percent of banks were assigned the lowest risk category in the US and were being charged a zero percent explicit premium for deposit insurance during the run-up to the crisis. And the majority of ex ante funds was small relative to the amount of insured deposits and was well below their target sizes.

To maintain public confidence in the banking system during the crisis, many countries raised deposit insurance coverage and introduced government guarantees on additional bank assets and liabilities. These measures generally seem to have had the intended beneficial short-run effect, although questions surfaced about the ability of some governments to honor their expanding obligations. For example, within the EU, national deposit insurance schemes nominally cover a minimum coverage limit determined at the EU level. Growing uncertainty

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<sup>5</sup> The failure of DIS premiums to reflect tail risks does not necessarily reflect an inadequate design of DIS. It could also simply be a result of a general failure to assess financial sector risks.

emerged about the ability of peripheral European countries with sovereign debt problems to honor these obligations, causing some deposit flight to banks in countries with stronger sovereigns, such as Germany.

The issue is much broader though than that faced in these troubled economies. Many DIS appear underfunded, especially in countries with large financial systems. Table 5 highlights the imbalances between the ability to pay and potential liabilities from deposit insurance. The table contrasts the amount of coverage promised with the amounts of funds available (from bank contributions) and the government debt-to-GDP ratio, which we use as an inverse proxy for the ability of a government to expand its debt to backstop the DIS fund in individual countries. The size of the DIS fund seldom exceeds the percentage of deposits covered by DIS, leading one to wonder whether sufficient funds would be available to pay off depositors quickly in a large failed bank without resorting to additional public funding (see also Figure 13). More generally, the sizeable amounts of bank deposits relative to GDP combined with high levels of government indebtedness in some countries raise doubts about the ability of governments in these countries to backstop the financial safety net (Figures 14 and 15).

**Table 5. Fund Size and Coverage of Existing DIS, 2010**

Country	Potential deposit liabilities, 2010				Ability to pay, 2010				
	Total deposits (US\$bn)	Eligible deposits (US\$bn)	Covered deposits (US\$bn)	Size of the DIS fund (US\$bn)	Public debt (as % of GDP) 1/	GDP (US\$bn)	Total deposits / GDP (%)	Size of DIS fund / Covered deposits (%)	
Argentina	95		27.6	1.21	49.2	367.6	25.8		4.4
Australia	1336	1269.2	815	0	20.5	1247.2	107.1		0
Austria				0	72.3	378.4			
Belgium	704.1	366		1.18	95.7	472.5	149.0		0.32 3/
Brazil	933	721.2	205.3	12.73	65.0	2142.9	43.5		6.2
Bulgaria	31.9	26.7	17.3	0.51	14.9	47.8	66.7		2.94
Canada	1803	1153.9	631.1	2.02	83.1	1614.1	111.7		0.32
Cyprus	42.4	76.5	32.6	0.04	61.3	23.1	183.5		0.11
Czech Republic	129	114.4	65.9	0.54	37.9	198.5	65.0		0.82
Denmark	302.5		100.9	0.73	42.7	313.1	96.6		0.73
Estonia	10.8	8.1	5	0.2	6.7	19.1	56.5		4.1
Finland	142	138.3	60.3	0.81	48.7	237.1	59.9		1.34
France	1742	1602.6	1167.1	2.45	82.4	2569.8	67.8		0.21
Germany	3395	1358		5.09	82.5	3310.6	102.5		0.37 2/
Greece	371.4	284.4	177.8	2.33	148.3	294.8	126.0		1.31
Hong Kong	877	859.5	175.4	0.18	35.5	228.7	383.5		0.1
Hungary	88.4	65.3	34.3	0.38	82.1	128.0	69.1		1.11
India	1166	1107.7	384.8	5.39	67.5	1711.0	68.1		1.4
Indonesia	279	251.1	170.2	2.04	26.1	709.5	39.3		1.2
Ireland	268.7			0.98	91.2	209.8	128.1		
Italy	2050	922.5	635.5	0	119.3	2059.2	99.6		0
Japan	11101	9990.9	7881.7	1.63	216.0	5495.4	202.0		0.02
Korea	951	646.7	256.8	4.13	33.4	1014.9	93.7		1.61
Latvia	20.3	16.5	6.5	0.18	39.7	24.1	84.2		2.82
Luxembourg	866.3	130.9	18.3	0	19.5	53.0	1634.5		0
Malta	58.3	10.7	8.5	0.01	66.0	8.4	694.0		0.13
Mexico	178	178	103.2	0.52	42.2	1046.7	17.0		0.5
Netherlands	1202	709.2	577	0	63.4	778.6	154.4		0
Portugal	272.1	200.9		1.99	94.0	229.4	118.6		0.99 2/
Romania	93.7	41.6	26.8	0.33	31.1	164.8	56.9		1.23
Russia	692	325.2	221.4	3.99	11.0	1524.9	45.4		1.8
Singapore	456	319.2	86.6	0.11	98.5	231.7	196.8		0.13
Slovak Republic	51.6	26.5	25.7	0.04	41.0	87.4	59.0		0.14
Slovenia	30.6	24.4	12.7	0	38.7	47.1	65.0		0
Spain	1963	1276	922.6	3.41	61.7	1387.4	141.5		0.37
Sweden	587.7	336.7	86.3	2.75	39.4	463.1	126.9		3.18
Switzerland	1481	1081.1	355.4	0	48.5	549.1	269.7		0
Turkey	399	235.4	99.8	5.4	42.3	731.1	54.6		5.41
United Kingdom	3183.2	1419.3		0	78.5	2296.9	138.6		0
United States	7888	7888	6231.5	-7.48	94.8	14958.3	52.7		-0.12

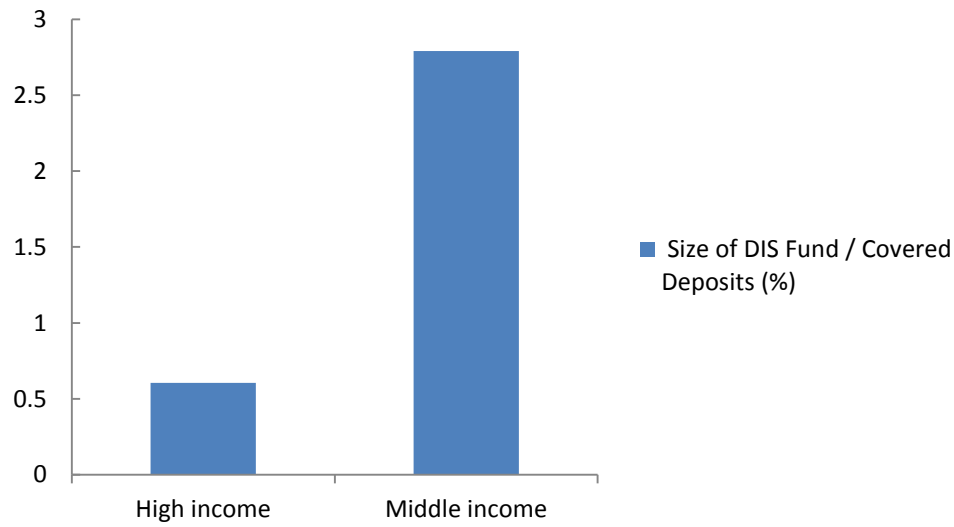
Notes: Total deposits refers to total deposits held by banks in the country. Eligible deposits refers to deposits repayable by the deposit insurance scheme, before the level of coverage is applied. Covered deposits are obtained from eligible deposits when applying the level of coverage.

1/ General government gross debt (as % of GDP). Source: IMF World Economic Outlook April 2014.

2/ Size of DIS fund / Eligible deposits.

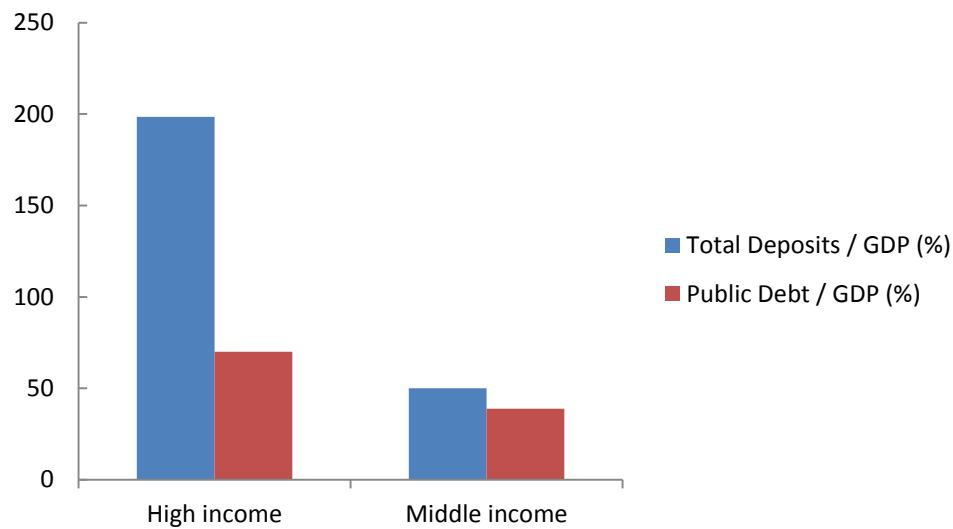
Sources: European Commission, International Association for Deposit Insurers, Financial Stability Board (2010, 2012), FDIC, Laeven and Valencia (2012), IFS, IMF staff reports, and national deposit insurance agencies.

**Figure 13. Potential Deposit Liabilities and Ability to Pay by the DIS Fund, end-2010 1/**



1/ Middle income includes lower and upper middle income countries. Insufficient data to report figures on low income countries.

**Figure 14. Total Deposits and Ability to Pay by the Government, end-2010 1/**



1/ Middle income includes lower and upper middle income countries. Insufficient data to report figures on low income countries.

## 4.2 Safety Net Index

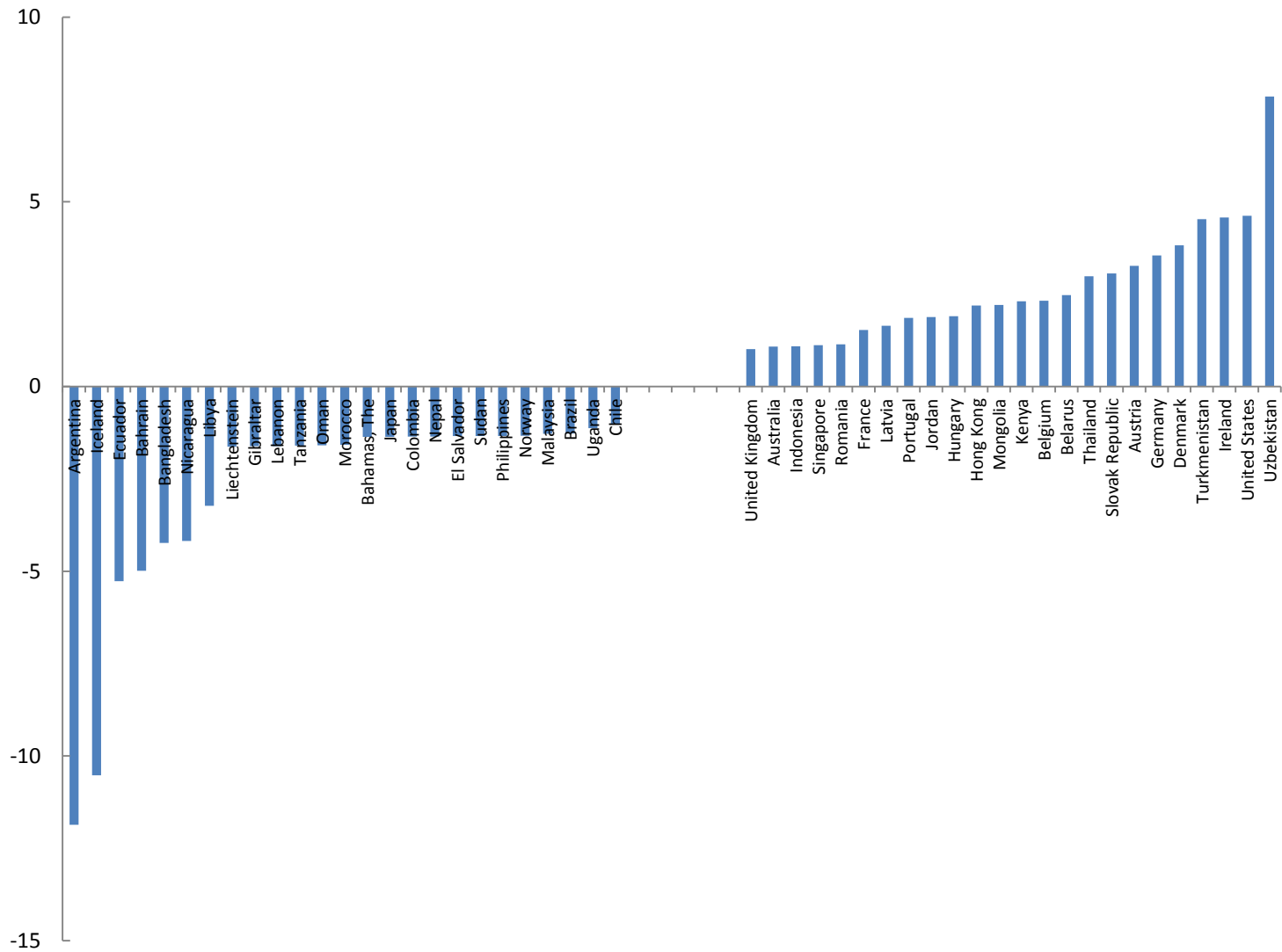
An additional complication that came to the fore during the crisis is the potentially different treatment of foreign and domestic depositors. For example, Iceland chose not to honor its deposit insurance obligations to foreign depositors when faced with a banking crisis at home. And in Europe, there are growing concerns especially among large corporate depositors about being “bailed in” during bank rescues.

To measure the generosity of the deposit insurance scheme and the existence of government guarantees on bank assets and liabilities, we create a safety net index, similar to the moral hazard index in Demirgüç-Kunt and Detragiache (2002).

The safety net index is computed using principal component analysis of standardized design feature variables that each are increasing in moral hazard. Specifically, we use the following design features: Coverage limit / GDP per capita and dummy variables for unlimited government guarantees in place, coverage of foreign currency deposits, coverage of interbank deposits, no co-insurance, payouts to depositors (per deposit account=2; per depositor per institution=1; per depositor=0), no risk-adjusted premiums, ex ante fund, funded by government, backstop from government, no losses imposed on uninsured deposits, government guarantees on bank deposits (limited or full), government guarantees on non-deposit liabilities since 2008, and government guarantees on bank assets since 2008. Each of these variables is constructed such that higher values denote more generosity or greater government support and imply more moral hazard. This set expands the set of deposit insurance variables used by Demirgüç-Kunt and Detragiache (2002) by including information on government guarantees in the financial sector. As such, the index captures moral hazard generated by the financial safety net at large, not deposit insurance in a strict sense. The safety net index (SNI) is the sum of the first six principal components for which the eigenvalues exceed 1.

Figure 16 reports the values of our SNI index, with higher values denoting more generosity, and consequently more moral hazard. We observe much country variation in the SNI index. It ranges from lows of -11.9 in Argentina and -10.5 in Iceland (which both have imposed losses on insured depositors) to highs of 4.6 in Ireland and the United States (both of which issued temporary guarantees on deposits and non-deposit liabilities during the recent crisis) and 4.5 in Turkmenistan and 7.8 in Uzbekistan (both of which have blanket guarantees). Some of these countries will be able to fund such generous safety nets promises, but the fairness and efficiency of imposing such a burden on households and nonfinancial firms is questionable. And the moral hazard it creates is hard to contain as evidenced in the difficulty of eliminating the too big to fail problem.

Figure 16. Safety Net Index, 2013 1/



Notes: The safety net index is a principal components index of DI design and other safety net features that is increasing in the generosity of the safety net.  
 1/ Countries with safety net index (SNI) values between -1 and +1 are excluded from the chart.

Going forward, important questions remain about how to restore market discipline. The problem is the perverse incentives generated by expectations that in future crises authorities will adopt the same policies of increasing coverage and creatively expand the financial safety net even further. Expectations that bailouts will again be the tool of choice in future crises complicate the role and effectiveness of deposit insurance limitations.

Academic research prior to the crisis generally advocated a limited role for deposit insurance, underscoring the moral hazard incentives associated with overly generous coverage. Concerns about moral hazard led to policy recommendations for low coverage-to-income limits, co-insurance schemes, and the exclusion of wholesale deposits (e.g., Demirgüç-Kunt and Detragiache, 2002, and Demirgüç-Kunt and Huizinga, 2004).

Using data on deposit insurance design features before the recent global financial crisis, Anginer, Demirgüç-Kunt, and Min (2014) examine the relation between deposit insurance, bank risk, and systemic fragility across a large number of countries in the years leading to and during the crisis. They show that generous financial safety nets increase bank risk and systemic fragility in the years leading up to the crisis (the moral hazard effect), however during the crisis, bank risk is lower and systemic stability is greater in countries with deposit insurance coverage (the stabilization effect). Consistent with the earlier literature, they find that the overall effect of deposit insurance over the full sample remains negative, suggesting that the destabilizing effect due to moral hazard is greater in magnitude compared to its stabilizing effect during periods of financial turbulence.<sup>6</sup>

However, less attention was paid to the political economy problems that plague deposit insurance at times of a crisis.<sup>7</sup> When faced with a crisis, governments quickly rewrote existing statutes so that DIS managers worldwide could increase coverage limits, abolish coinsurance, and extend guarantees on non-deposit liabilities. Because this kind of support is funded as a contingent liability, neither the DIS nor the national governments felt an immediate fiscal repercussion. These actions could be performed easily and quickly in the name of financial stability. None of these increases in potential liabilities passed through official government budgets. And because they were not accompanied by increased premiums or other measures to rein in risk-taking by the insured (such as ex post levies on banks), the banks being rescued did not complain either. The problem is that these political economy considerations are not symmetric. Once in place, it is politically very hard to unwind guarantees and especially difficult to decrease DIS coverage, when and as a crisis abates. And while premiums can be gradually increased on banks to recoup part of the subsidy passed through the financial safety net from the bailout policies, the problem is that it is never easy to recoup these costs only from surviving

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<sup>6</sup> Liu, Zhang, and Fang (2015) also study the link between bank risk and deposit insurance, using data on bank credit default swaps to measure bank risk, and find that deposit insurance design features such as risk-adjusted premiums as coinsurance lower banks' credit risk.

<sup>7</sup> What Kane (1989) calls the "proliferation of hopelessly insolvent zombie institutions simultaneously gambling for resurrection."

banks who often have even more political clout than before the crisis occurred. Their clout helps to persuade authorities to hold post-crisis premiums below actuarially fair levels, not only to lower the burden on the banks, but to support credit growth and macroeconomic recovery.

Some would argue that a gradual move to bail-in policies to replace the bail-out of senior uninsured debtholders and uninsured depositors would protect against contingent liabilities for governments arising from the financial safety net. Bail-in policies are policies that impose losses on bank creditors, after wiping out bank shareholders. These generally include subordinated debtholders but can also include senior creditors and even uninsured depositors, as recently in the case of Cyprus. Indeed, several countries have made steps in this direction by adopting rules that would impose losses on such private creditors in the event of a bank failure.<sup>8</sup> One problem with these rules is that they are time inconsistent: the temptation to renege on bail-in policies in the midst of a systemic crisis, when creditor panic and contagion risk rises to dangerous levels, will be too high for many governments.

The evidence also implies that it is difficult to use a DIS as a source of monitoring and market discipline during a systemic banking crisis. In the years leading up to the financial crisis, many countries had chosen prudently low levels of deposit coverage and/or introduced explicit coinsurance in an attempt to encourage monitoring of financial institutions by retail depositors and by one another. In 2003, many countries had co-insurance, but by 2013, only three countries did. The evidence indicates that the explicit coverage limits that are set in normal times are not time-consistent. This is particularly problematic in environments with weak frameworks for resolving the affairs of insolvent financial firms. In such countries, regulators and supervisors cannot readily ignore budgetary and political pressures to intervene in distressed banks. It is therefore important for governments to monitor, assess, and report fiscal risks related to DSI. Following the crisis both the size of explicit government contingent liabilities related to DSI and the probability of these contingent liabilities materializing have increased. This calls for reforms to contain and mitigate these contingent liability risks.

## 5. CONCLUDING REMARKS

Deposit insurance, long a topic for narrow specialists, became a hot policy topic during the global financial crisis. Countries that could afford to do so broadened deposit insurance coverage and enlarged their financial safety net to restore confidence in their financial system. Only a few less fortunate countries broke their promises on insured deposits (as in the case of Iceland) or imposed substantial losses on uninsured depositors (as in the case of Cyprus).

This paper presents a comprehensive database of features of existing deposit insurance arrangements and government guarantees on bank assets and liabilities, together with a preliminary analysis of the effectiveness of these arrangements during the global financial crises.

This analysis suggests that deposit insurance arrangements were largely effective in preventing large-scale depositor runs, but have never correctly priced risk. This underpricing of

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<sup>8</sup> For instance, the 2014 Bank Recovery and Resolution Directive of the European Union allows for bail-in policies.



deposit insurance is at least as likely to encourage potentially ruinous risk taking by banks in the future as it has in the past. The expansion of the safety net during the crisis intensifies questions about the ability of countries to honor their obligations and about moral hazard going forward.

At the same time, the increasing reliance on short-term wholesale funding for banks and their links to securities, futures, and derivatives markets raise doubts about whether the government should also protect deposit-like instruments to prevent runs on wholesale funding to spill over to traditional banking markets. A generous safety net raises deep problems that must not be ignored: concerns about moral hazard, distributional fairness, and ability to pay. These concerns are apt to be particularly pressing in countries whose financial systems are large relative to the size of their economy.

A gradual move to bail-in policies of uninsured depositors and debtholders would help ensure that governments are able to honor payments out of generous DIS, though contagion concerns, too big to fail considerations, and other political economy constraints may get in the way of efforts to bail in such creditors during a systemic crisis.

A more comprehensive analysis of these issues is needed and we hope that publishing this database will facilitate such research.

## ACKNOWLEDGEMENTS

We would like to thank Belen Bazano and Lindsay Mollineaux for excellent research assistance, and IMF country economists for their useful comments and help in checking the accuracy of the database. The paper was written while Luc Laeven was a staff member of the International Monetary Fund. The views expressed here are our own and not those of the European Central Bank, International Monetary Fund, or World Bank.

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