

The Mexico Cat Bond – a solution for countries at risk?

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Awareness is the Key
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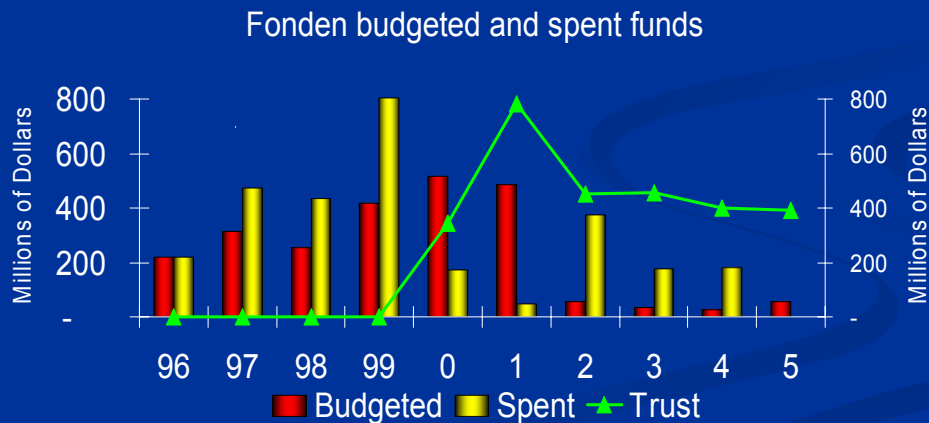
Hurricanes and earthquakes are the most recurrent natural risks for Mexico

- Mexico lies within one of the great seismic regions in the world
- Mexico is in the path of many a hurricane and tropical storms generated in the Caribbean Sea, Atlantic and Pacific Oceans



Natural Fund of Disaster (Fonden)

- Emergency spending a budget item since 1996
- Ministry of Finance created Fonden in 1999
- Fonden resources have been reduced since 2001, natural disaster spending highly unpredictable, fiscal resources are not sufficient



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What is considered a catastrophe for Fonden?

- Spending for one or more catastrophes in one year larger than annual average catastrophe spending plus one standard deviation

Federal Government Spending on Natural Disasters through FONDEN
(Millions of US Dollars)

Year	Amount Spending
1996	109
1997	310
1998	330
1999	739
2000	511
2001	120
2002	261
2003	216
2004	32
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Total	2,630
Average	292
SD	48,386
Variance	220
Average + SD	512



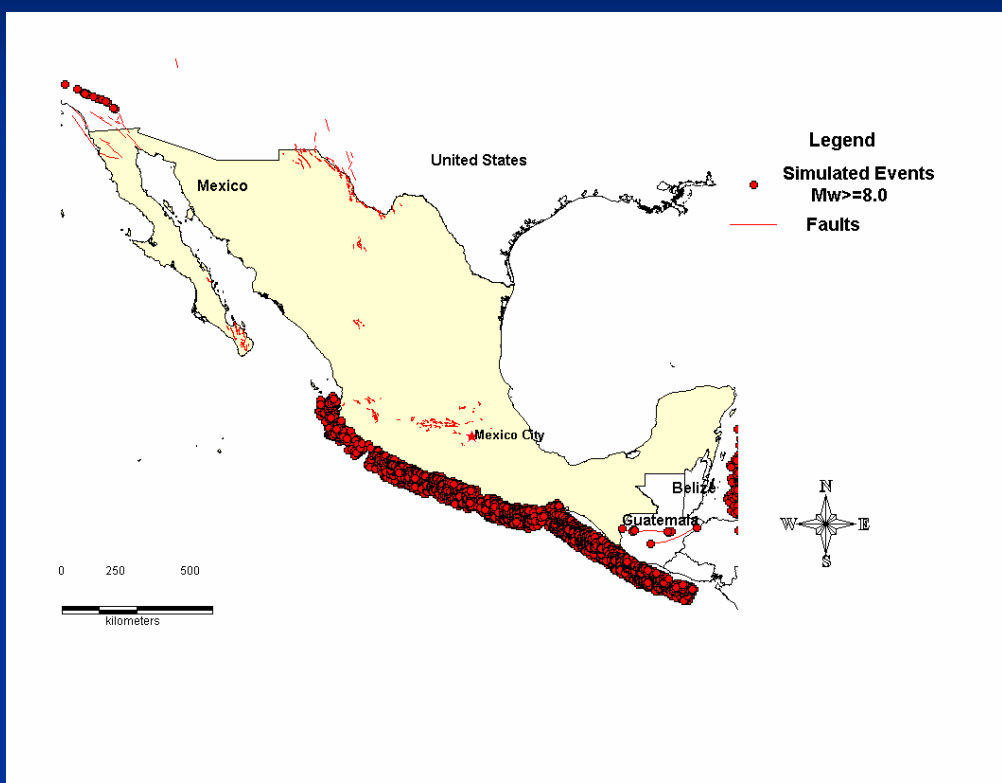
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Objectives of the project: the financial protection of the trust

- To have access to additional funds to cope with emergency losses in the aftermath of a large earthquake
- Earthquakes only for the time being
 - although less recurrent, cause the biggest losses
 - good data basis and top specialists involved

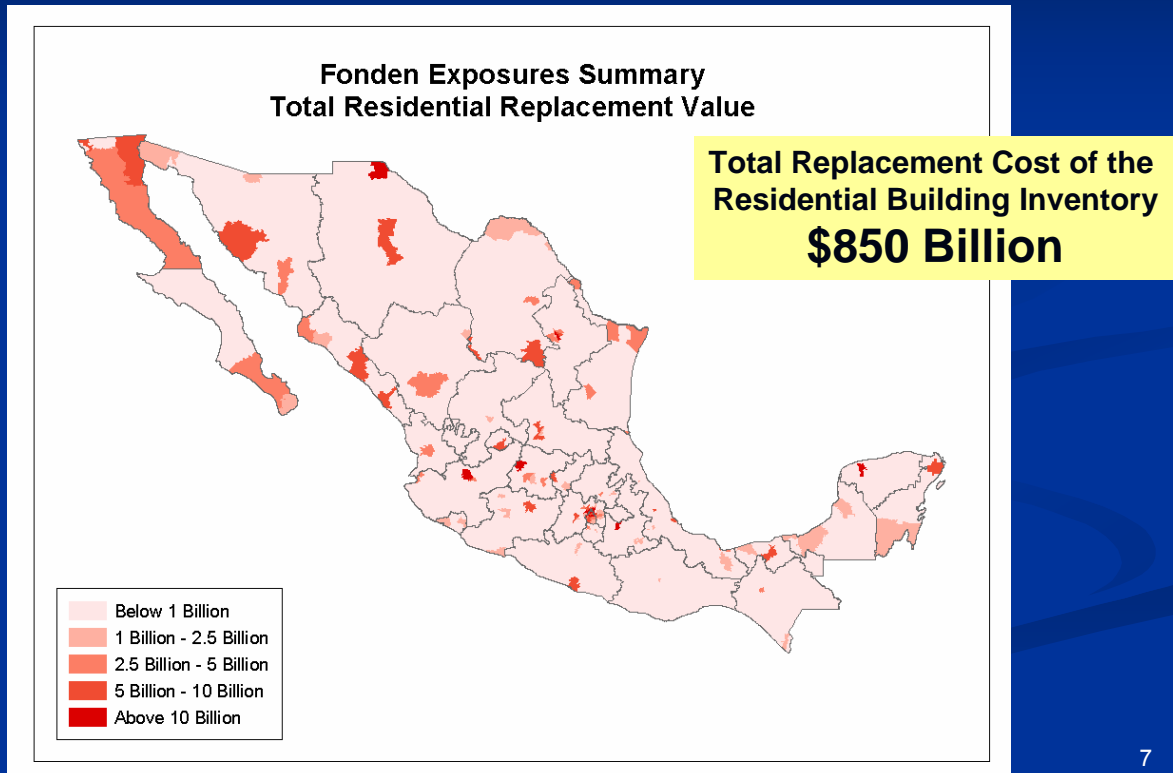
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AIR Simulated Future Earthquakes (100,000-year catalog)

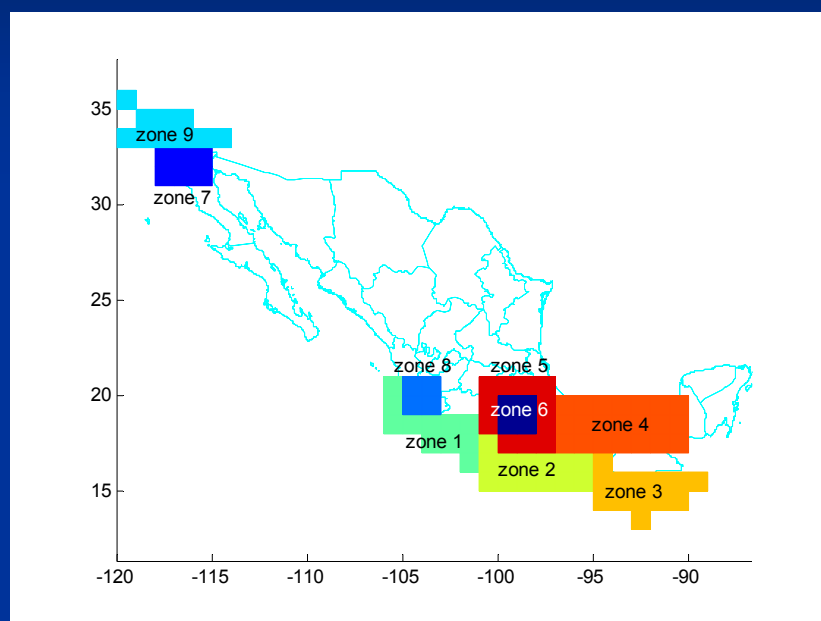


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AIR estimated the total exposure



AIR modeled 9 zones with its potential losses



Zones to transfer

Event Level Emergency Loss (\$M) - by Zone									
Mw	1	2	3	4	5	6	7	8	9
6	20	20	20	20	20	20	20	20	10
6.5	100	100	100	100	100	100	100	53	14
7	195	200	143	107	200	200	200	79	17
7.5	284	305	169	-	500	-	494	94	37
8	702	999	241	-	999	-	-	190	29

Source: AIR

Cover sought for three zones: 150 Million USD each

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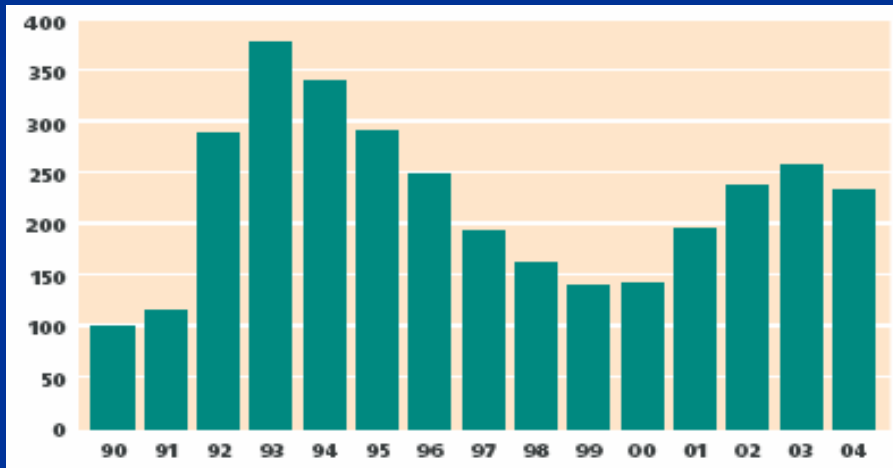
Which type of financial protection?

- Risk transfer tools contemplated, separately or jointly,
 - Catastrophe bonds
 - Reinsurance
- The main difference between them are:
 - Reinsurance:
 - credit risk
 - cyclical premiums
 - standard product
 - Cat bond:
 - additional placement costs
 - premium higher
 - multi-year possible
 - no credit risk

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Reinsurance premiums cyclical and related to global market

World Rate On Line Index*



*1990=100, Guy Carpenter

Risk of default of reinsurer

Table 1: Default probabilities for different ratings

Calificación	Horizonte de Tiempo														
	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15
AAA	0.00	0.00	0.04	0.07	0.12	0.21	0.31	0.48	0.54	0.62	0.62	0.62	0.62	0.62	0.62
AA	0.01	0.03	0.08	0.16	0.26	0.40	0.56	0.71	0.83	0.97	1.09	1.23	1.36	1.50	1.61
A	0.04	0.13	0.26	0.43	0.66	0.90	1.16	1.41	1.71	2.01	2.24	2.44	2.64	2.81	3.08
BBB	0.29	0.86	1.48	2.37	3.25	4.15	4.88	5.60	6.21	6.95	7.69	8.32	9.01	9.81	10.67
BB	1.28	3.96	7.32	10.51	13.36	16.32	18.84	21.11	23.22	24.84	26.5	27.84	29.08	29.93	30.94
B	6.24	14.33	21.57	27.47	31.87	35.47	38.71	41.69	43.92	46.27	48.19	49.87	51.41	53.24	54.73
CCC/C	32.35	42.35	48.66	53.65	59.49	62.19	63.37	64.10	67.78	70.80	70.80	70.80	70.80	72.26	72.26
Grado de Inversión	0.11	0.32	0.57	0.90	1.25	1.62	1.95	2.27	2.57	2.89	3.18	3.43	3.68	3.95	4.27
Grado Especulativo	5.32	10.88	16.15	20.61	24.24	27.43	30.18	32.65	34.82	36.77	38.44	39.84	41.13	42.43	43.58
Todas las Calificaciones	1.70	3.44	5.03	6.40	7.50	8.45	9.24	9.94	10.55	11.12	11.61	12.01	12.40	12.79	13.20

Fuente: Standard & Poors Global Fixed Income Research: Standard & Poors CreditPro 7.0

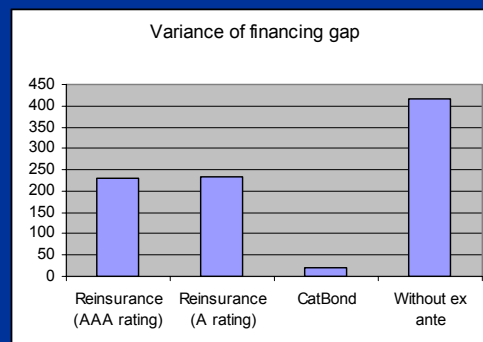
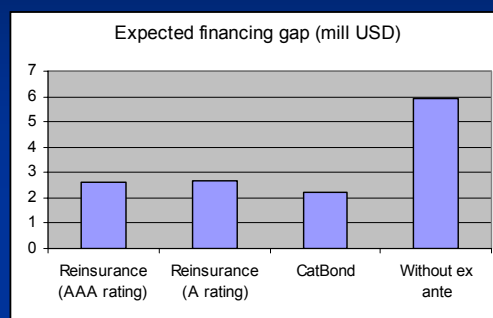
IIASA CATSIM analysis

Given the fact that the resources assigned to the program Fonden are part of the federal government budget, the funds assigned have **opportunity costs** due to the financing of various permanent programs, in particular, those of a social nature (poverty attention and mitigation, agriculture and school subsidies, etc.).

What are costs and benefits of different strategies?

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Some preliminary results using CATSIM



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Current status

- Request for proposal for financial entity next week (2nd process with concerns addressed)
- Decide winner in February
- Purchase cover for 2007-09

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More detail:

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