



Banco Central de la República Argentina

Jornadas Monetarias y Bancarias, 2000

24 de Agosto de 2000

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Mauricio Naranjo

Apertura financiera en México

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Apertura Financiera en México

Mauricio Naranjo¹

1. Marco Jurídico

1.1 Antecedentes

La participación de la banca extranjera en México fue importante durante el siglo XIX, cuando se creó formalmente el servicio de banca y crédito, en parte gracias a la iniciativa de inversionistas extranjeros. Sin embargo, durante el siglo XX la participación de la banca extranjera fue casi nula, ya fuera por un marco normativo que limitaba su actuación o por inestabilidad en el mercado interno. De hecho, si analizamos la legislación financiera mexicana bajo una perspectiva de largo plazo, el rasgo sobresaliente es que esta transitó en un periodo muy breve – de 1990 a 1998 – de una banca en la que el sector privado no podía participar, a una banca con plena apertura y sin restricciones incluso para los inversionistas extranjeros.

Hasta 1924, desde el punto de vista legal, las sucursales de entidades financieras del exterior pudieron operar libremente en el país, aunque, de hecho, para ese año sólo una de ellas (Citibank) mantenía operaciones, mientras que las demás por problemas políticos y económicos fueron disminuyendo sus operaciones e incluso cerrando sus puertas. La ley estableció en 1924 que la banca extranjera sólo podría operar en México con sucursales, contando con autorización gubernamental y restringidas a no emitir valores. Con la ley de 1941 se limitan aun más sus actividades ya que sólo se les autoriza a realizar operaciones de banca de depósito. Mas aún en las reformas de 1978 a la ley, se previó que los bancos extranjeros de primer orden pudieran establecer sucursales en México exclusivamente para llevar a cabo operaciones con residentes en el exterior (sucursales "off shore").

En septiembre de 1982, mediante un cambio constitucional, la banca pasa a manos del gobierno. Dos bancos comerciales permanecieron operando: Banco Obrero y Citibank. La primera excepción se concedió porque era un intermediario de los sindicatos y uniones de trabajadores. La segunda excepción se otorgó como reconocimiento al compromiso que Citibank había tenido con el país durante mucho tiempo. Citibank operaba durante este periodo de la banca nacionalizada más activamente en el mercado de dinero y cambios, aunque tenía autorización para ofrecer créditos. Los años posteriores a la nacionalización bancaria no fueron positivos para el sector. Los encajes legales, las canalizaciones obligadas de recursos, el manejo de las tasas de interés y las restricciones que evitaron la expansión del crédito, dieron como resultado una pérdida de

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penetración de la banca en la intermediación financiera y que la asignación de crédito no fuera mejor.

A partir de 1988, el saneamiento de las finanzas públicas y la liberalización financiera permitieron una importante expansión del crédito. Esta se dio de forma conjunta con la liberalización de las tasas de interés; la eliminación de la canalización obligatoria de recursos; así como la sustitución y posterior eliminación del encaje legal y el coeficiente de liquidez. Los cambios estructurales que buscaban que el mercado tuviera un papel preponderante en el mercado financiero culminaron en 1990 en que se hicieron reformas a la Constitución para permitir nuevamente la inversión privada en el servicio de banca. Además, en julio de 1990 el Congreso de la Unión aprobó dos leyes en donde el concepto de banca universal quedaba establecido: la Ley de Instituciones de Crédito, y la Ley para Regular las Agrupaciones Financieras

Uno de los aspectos importantes de las reformas legislativas de 1989 y de 1990 fue permitir la participación de extranjeros en el capital de intermediarios financieros, hasta 49% del capital común para la mayoría de tales intermediarios, es decir arrendadoras financieras, empresas de factoraje financiero, almacenes generales de depósito, casas de cambio, sociedades financieras de objeto limitado, entre otras; y hasta 30% de dicho capital tratándose de instituciones de banca múltiple, casas de bolsa y sociedades controladoras de grupos financieros. Además, se permitió que los bancos y grupos financieros emitieran hasta 30% del capital en acciones sin derecho a voto, que también eran susceptibles a ser adquiridas por extranjeros. Con este nuevo marco normativo fue que en 1991 y 1992 se llevó a cabo el proceso de privatización de la banca.

Las negociaciones del Tratado de Libre Comercio de América del norte (TLCAN) terminaron en agosto de 1992, un par de meses después de que había terminado la privatización de los bancos comerciales y la formación de grupos financieros. El TLCAN acentuó la apertura financiera, al abrir el sector a la inversión extranjera, sin embargo prevalecieron algunos límites de participación. El capital individual máximo a ser autorizado por México para una filial financiera extranjera, calculado como porcentaje del capital agregado de todas las instituciones financieras del mismo tipo en México, no debería exceder de 1.5% para instituciones bancarias. Además, la suma total del capital autorizado de todas las Filiales financieras extranjeras del mismo tipo, medida como porcentaje de la suma de capitales de todas las instituciones financieras del mismo tipo establecidas en México, no excedería de 8% como límite inicial y 15%. Estos límites sufrirían incrementos anuales iguales hasta alcanzar, en el 2000 los límites finales.

Asimismo, se estableció una salvaguarda: si la suma de los capitales autorizados a las filiales financieras extranjeras, medida como un porcentaje de la suma del capital de todas las instituciones financieras de este tipo establecidas en México, alcanzaba un porcentaje de 25% para instituciones bancarias, México tendría el derecho de congelar por una sola vez durante los cuatro años siguientes a la terminación del periodo de

transición, el porcentaje que represente el capital agregado de las Filiales financieras extranjeras a su nivel en ese momento. De aplicarse esta restricción no duraría más de tres años.

Dentro de las modificaciones a las leyes ocurridas en 1995, se aumentaron los límites de participación de mercado establecidos en el TLC, en donde el límite individual aumentó de 1.5% al 6% y el límite agregado final pasó de 15% a 25%. En otros casos (arrendadoras financieras, empresas de factoraje financiero y sociedades financieras de objeto limitado) se prevén sólo los límites agregados. De acuerdo a esta regla sólo Bancomer, Banamex y Serfín no estaban sujetos a adquisición por algún banco extranjero, por ser bancos mexicanos cuyo capital excedía del 6% del capital total del sistema bancario.

También en 1994 y 1995 se modifican las leyes de Instituciones de Crédito, del Mercado de Valores y para Regular las Agrupaciones Financieras. Se definen de forma precisa conceptos como Filial, Institución Financiera del Exterior y Sociedad Controladora Filial así como los requisitos para su constitución. Se define que el capital social de las sociedades controladoras Filiales estará integrado por acciones "F", que representan cuando menos el 51% de dicho capital. El 49% restante del capital social podrá integrarse indistinta y conjuntamente por acciones tipo "F" y "B".

1.2 Marco Jurídico Actual

En diciembre de 1998 se eliminan por completo las restricciones a la participación de inversionistas extranjeros en el sistema financiero. En particular esta modificación afectó a los tres bancos cuyo capital excedía el 6% del capital total del sistema bancario, buscando que tuvieran la oportunidad para atraer capital extranjero en forma mayoritaria, lo que facilitaría el fortalecimiento de su capitalización y les permitiría atraer socios estratégicos.

Las reformas de 1998 a las leyes financieras modifican la estructura accionaria de las sociedades controladoras de grupos financieros, instituciones de banca múltiple y casas de bolsa al señalarse que su capital ordinario estaría presentado por una sola serie de acciones "O" de libre suscripción. El capital social adicional estará representado por acciones serie "L" de libre suscripción (capital neutro sin derecho a voto), que podrán emitirse hasta por un monto equivalente al 40% del capital social ordinario.

No se podrá adquirir, directa o indirectamente el control de acciones de la serie "O" por más del 5% del capital social de una institución de banca múltiple. Las autoridades podrán autorizar, cuando su juicio lo justifique, un porcentaje mayor, sin exceder el 20%. Las personas que adquieran acciones mediante la serie "O" por más del 2% del capital social de una institución de banca múltiple deberán dar aviso a las autoridades dentro de los tres días hábiles siguientes a la adquisición o transmisión.

Estas reformas definieron el marco de actuación vigente para los inversionistas extranjeros en el sistema financiero mexicano, de forma que pueden participar de tres maneras:

1. Estableciendo una filial al 100% o adquiriendo el 51% de un banco existente. La institución adquiriente tiene que ser autorizada para operar dentro de los tratados de libre comercio que mantiene México con Norteamérica y con la Comunidad Económica Europea.
2. Abriendo una sucursal limitada, exclusivamente para dar servicio a personas no residentes en la República Mexicana. Este tipo de inversión ha quedado establecido meramente para efectos técnicos, ya que no resulta ni viable ni atractiva. El mercado potencial es muy reducido y no justifica la inversión, por lo que hasta ahora no ha habido ni solicitudes, ni autorizaciones
3. Montando una oficina de representación, que pueden servir de enlace entre su banco matriz y los clientes. Pueden participar en la generación y recuperación de activos, pero tienen prohibido promover actividades de captación

2. Participación Extranjera en el Sector Financiero

A partir de 1994 un número importante de intermediarios financieros extranjeros se ha establecido en México. El concepto más significativo a la fecha son los bancos filiales dividido en dos formas de inversión:

- I. Bancos de mayoría: Aquellos que adquirieron posiciones mayoritarias de bancos existentes
- II. Bancos nuevos: Aquellos establecidos como instituciones de nueva creación de capital extranjero

Durante el pasado lustro se han instalado 15 bancos filiales nuevos, de los cuales 9 son americanos, 5 europeos y 1 japonés. Los bancos y fechas de apertura se muestran en el siguiente cuadro:

Institución	Fecha de Apertura
Banco J.P. Morgan	Diciembre'94
Chase Manhattan Bank	Enero'95
Bank One (antes First Chicago)	Enero'95
Bank of Tokio-Mitsubishi	Marzo'95
Bank of America	Mayo'95
ABM Amro	Julio'95
Bank of Boston	Agosto'95
Republic National Bank of NY	Agosto'95
BNP	Septiembre'95
Societe Generale	Septiembre'95
Dresdner Bank México	Noviembre'95
ING Bank	Noviembre'95
American Express Bank	Abril'96
Comerica Bank	Abril'97
GE Capital	Mayo'97

La orientación principal de las nuevas filiales es hacia actividades e intermediación en los mercados de cambios y de dinero, así como al otorgamiento de crédito a grandes empresas, normalmente subsidiarias de empresas transnacionales que ya son clientes de la casa matriz.

Por otro lado, han quedado autorizadas y operando organizaciones auxiliares de crédito y casas de bolsa extranjeras, pero las oficinas de representación siguen siendo el mayor número de participantes en la comunidad financiera internacional de México. Hay 76 oficinas de representación y agencias de bancos extranjeros operando.

Sin duda el hecho más relevante en el mercado financiero mexicano después de la crisis de 1995 fue la compra de los bancos, segundo y tercero del país por inversionistas extranjeros; Bancomer por BBV y Serfín por Banco Santander Central Hispano. Esto confirma la tendencia que inicio en 1995, una vez que la normatividad establecida en TLCAN permitió la participación extranjera. Desde entonces cuatro bancos extranjeros han comprado posiciones mayoritarias en bancos existentes mexicanos y cuatro bancos extranjeros han invertido en participaciones minoritarias. El resumen se presenta en el siguiente cuadro.

Bancos con Participación Extranjera		
Mayoritaria		
Adquiriente	Adquirida	Fecha
1. Banco Bilbao Vizcaya	Mercantil Probursa	1996
	Bancomer	2000
2. Banco Santander	Mexicano	1997
	Serfín	1999
3. Citibank	Confia	1998
4. Nova Scottia	Inverlat	2000
Minoritaria		
Inversionista	Socio	Fecha
1. Bank of Montreal	Bancomer	1995
2. Banco Central Hispano	Bital	1993
3. Honk Kong Shanghai	Serfín	1996
4. Banco Sabadell	Bajío	1999

La participación extranjera en México en cuanto al numero de instituciones se puede resumir en el siguiente cuadro.

	Extranjeros	Sistema
Grupos Financieros	10	39
Instituciones de Banca Múltiple	16	47
Arrendadoras Financieras	12	39
Sociedades Financieras de Objeto Limitado	11	30
Factoraje Financiero	7	25

Asimismo la siguiente tabla nos da una idea del proceso de consolidación que se ha sufrido la banca en nuestro país a partir de la crisis de 1995.

Consolidación del Sistema Bancario		
Bajo el Control de Accionistas Extranjeros		
1994	1999	Julio 2000
Bancomer	Bancomer*	Bancomer* - BBVA(33%)
Promex		
Unión		
Probursa		
Cremita	BBVA(70%)	Serfín - Santander
Oriente		
Serfín		
Mexicano	Santander	
Inverlat	Inverlat - Scotia(55%)	Inverlat - Scotia(55%)
Confía	Citibank(100%)	Citibank(100%)
Citibank		
* Con Participación de Bank of Montreal		

En el siguiente cuadro se muestra el porcentaje de activos, cartera de crédito, captación tradicional e índices de capitalización para la banca extranjera en tres fechas distintas.

	Noviembre 1997¹	Diciembre 1998²	Mayo 2000³
Activos			
Filiales sin banca de menudeo	1.6	1.7	3.8
Filiales con banca de menudeo	9.5	21.4	41.9
Bancos con participación Extranjera Bajo control Administrativo de los Accionistas Mexicanos	36.1	35.5	8.9
Captación Tradicional			
Filiales sin banca de menudeo	3.0	1.0	2.0
Filiales con banca de menudeo	11.3	22.5	44.5
Bancos con participación Extranjera Bajo control Administrativo de los Accionistas Mexicanos	36.9	35.7	9.6
Cartera de Crédito			
Filiales sin banca de menudeo	2.1	1.4	1.1
Filiales con banca de menudeo	10.0	17.6	45.8
Bancos con participación Extranjera Bajo control Administrativo de los Accionistas Mexicanos	36.7	34.4	6.8
ICAP Promedio Sistema	13.3	19.2	10.4
Filiales sin banca de menudeo	38.7	30.0	15.3
Filiales con banca de menudeo	10.1	13.0	11.4
Bancos con participación Extranjera Bajo control Administrativo de los Accionistas Mexicanos	12.4	12.2	10.6

1. En noviembre de 1997 dentro de los Bancos Filiales sin banca de menudeo se encuentran todos los considerados dentro del sistema incluyendo a Santander de Negocios y Citibank. Dentro de los bancos Filiales con banca de menudeo esta BBV-Probursa y Scottia Bank- Inverlat y dentro de los bancos con participación extranjera bajo control administrativo de accionistas mexicanos esta Bank of Montreal-Bancomer, Bital-BSCH y Honk Kong Shanghai Bank-Serfín.

2. En diciembre de 1998 dentro de los Bancos Filiales sin banca de menudeo se encuentran todos los considerados dentro del sistema menos Santander de Negocios y Citibank. Dentro de los bancos Filiales con banca de menudeo esta BBV-Probursa, Scottia Bank- Inverlat, BBV-Probursa, Santander-Mexicano, Citibank-Confia y Bajio-Sabadell y dentro de los bancos con participación extranjera bajo control administrativo de accionistas mexicanos esta Bank of Montreal-Bancomer, Bital-BSCH y Honk Kong Shanghai Bank-Serfín.

3. En junio 2000 dentro de los Bancos Filiales sin banca de menudeo se encuentran todos los considerados como Filiales dentro del sistema en diciembre de 1998. Dentro de los bancos Filiales con banca de menudeo esta BBV-Probursa, Scottia Bank- Inverlat, BBV-Probursa-Bancomer-Bank of Montreal, Santander-Mexicano-Serfín- Honk Kong Shanghai Bank, Citibank-Confia y Bajio-Sabadell y dentro de los bancos con participación extranjera bajo control administrativo de accionistas mexicanos esta Bital-BSCH.

Por último, se presenta una tabla que busca dar un marco general sobre la intervención de las filiales que han decidido participar en menudeo en el país.

Participación de la Banca en México			
MAYO 2000			
	Activos	Captación Tradicional	Cartera de Crédito
Banamex	20.4	19.5	22.0
Bancomer-Promex	19.7	21.6	22.1
Bital	8.9	9.6	6.8
Serfín	8.6	9.3	10.5
BBV	7.2	6.6	6.0
Banorte	6.6	7.2	6.5
Santander	5.4	5.7	5.5
Citibank	4.0	3.7	2.8
Atlántico	4.0	4.6	5.8
Inverlat	4.0	4.2	3.8

3. Problemática

La problemática general de la banca extranjera en México es la de definir el rol que jugará bajo la estructura actual del mercado. Para los bancos que han decidido participar en la banca de menudeo (i.e. depósitos y créditos), el reto implica incursionar en un mercado que hasta ahora a estado limitado a participantes mexicanos. Para aquellas filiales que mantienen una operación limitada en nuestro país, el reto implica generar un nicho de mercado que les permita obtener una rentabilidad adecuada. La operación que muchas de estas filiales mantienen en nuestro país - en los mercados de cambios y de dinero, así como es el otorgamiento de grandes créditos- no les ha permitido a muchos de ellos tener un rendimiento adecuado sobre su capital en los últimos años.

A esta problemática contribuyen algunos factores que incrementan su complejidad:

- I. La competencia de las oficinas de representación que promueven el crédito de sus casas matrices. De esta forma con un costo de operación mínimo pueden competir con las filiales, domiciliando los créditos en el extranjero.
- II. Las restricciones para realizar operaciones en dólares que existen y que impiden que se desarrolle este mercado, en el que las filiales podrían tener una ventaja

competitiva. Por ejemplo, el requerimiento para mantener liquidez en dólares como porcentaje de los pasivos en esta moneda. Como resultado, en los últimos años se ha acentuado la importancia de los intermediarios financieros internacionales otorgando financiamiento en moneda extranjera a empresas mexicanas. Por otro lado, los grandes corporativos mexicanos tienen acceso a financiamiento de forma directa en el extranjero, en ocasiones en mejores condiciones que los propios bancos.

- III. Para aquellas filiales que operan en una escala reducida el tamaño del crédito que es requerido es muchas veces mayor a lo que puede enfrentar su capital ya que sólo pueden prestar montos menores al 30% de su capital por acreditado. Por lo que muchas veces sólo realizan la negociación, y el crédito es otorgado por la casa matriz en dólares.
- IV. Los costos regulatorios son altos. Las filiales, sin importar su tamaño, enfrentan los mismos requerimientos regulatorios y de información que cualquier banco. Además, la cuota del seguro de depósitos (0.4% sobre los pasivos) es demasiado elevada en términos internacionales. Las filiales argumentan de forma adicional que los riesgos que ellos asumen son mucho menores del promedio, mientras que su índice de capitalización es más elevado; lo que debería reflejarse en una menor cuota de seguro.

4. Conclusiones

En el marco general de la participación de las filiales en México las autoridades financieras tendrán que enfrentar un par de discusiones en los próximos años. A raíz de la controversia que se generó por la posible fusión de Bancomer (el segundo banco más grande del país) con el banco español BBVA, de forma inicial, y que dio lugar a una contraoferta por parte de Banamex (el banco mexicano más grande), se abrieron importantes preguntas para el sistema financiero.

La propuesta inicial, que finalmente fue la elegida por Bancomer, abrió el debate sobre la conveniencia de tener el sistema de pagos del país controlado de forma mayoritaria por entidades extranjeras. Este planteamiento fue inclusive presentado por el propio gobierno cuando negoció el TLCAN a principio de los ochenta y fue retomado por algunos partidos de oposición a raíz de la disputa por Bancomer. Lo sorprendente de este debate fue la fuerza de los argumentos nacionalistas que surgieron, ausentes en nuestro país hasta ese momento.

El segundo tema que esta fusión abrió fue el de concentración de mercado. El banco que hubiera surgido de Bancomer-Banamex hubiera tenido participaciones muy altas en algunos mercados financieros: más de 40% de las sucursales, 80% de las tarjetas de crédito y 60% en captación estable de ventanilla. Dado que en el país las prioridades de

las autoridades financieras habían sido hasta el momento el desarrollo del mercado y la capitalización de los intermediarios, la concentración se presenta como un nuevo punto en la agenda. La participación extranjera en México forzará a las autoridades resolver el tema en el futuro cercano.



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Jornadas Monetarias y Bancarias, 2000

Paul Narayanan y Bryn Mawr

Credit portfolio management

24 de Agosto de 2000

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Credit Portfolio Management



Current Approaches
Paul Narayanan
Bryn Mawr, Pennsylvania



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Preliminaries

- What do we mean by portfolio credit risk?
- How has it evolved?
- Where is it going?

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Portfolio Risk

- Risk arising out of a collection of assets by virtue of sharing a similar tendency to change in credit quality.
 - This risk may be caused by a single asset of a large size or a group of assets that behave almost as if they are one asset.

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Portfolio Control Methods

- Segmentation
 - Asset Type
 - Industry
 - Location
- Exposure & Volatility
- Rating Systems
- Objective Models

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Optimization for risk & return

- Standard portfolio optimization model is applicable only in a limited way to assets with credit risk because:
 - Correlation is blind to loan structure
 - Fat tail problem (Assumption of Normality)
 - Absence of market prices for most assets
 - Correlation of Default Probability - more nebulous than that for equity returns

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Problems with Correlation

- Default correlations are difficult to estimate
- Stability / Reliability of correlations is questionable
- Data continuous to be a problem for smaller assets (e.g. private companies).
- Factor sensitivity is an issue- Correlations are usually unconditional and modifying them is arbitrary.

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Recent Models



Market Value Mode
Default Mode



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Marking to Market or Model?

- Market Value Mode - Marking to market uses the market values of assets in the portfolio to derive risk-return conclusions
- Default Mode - Marking to model uses an analytical model to derive “notional values” (or “intrinsic” values).

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Two-state and Multi-state Models

- Two - State Default Model
 - Default or No Default are the two states
 - Expected value is derived using probability of default and probability of loss given default
 - Ignores gradual changes in credit quality

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Multi-state Model

- Multi-state concept
 - As credit quality changes, the value also changes
 - Value is linked to migration in quality and derived based on value given current rating or value given default
 - Derived from yield spread or DCF.

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Models Based on Market Value

- Marking to Market is the ultimate extension of the multi-state model (infinite states) such as “value at risk” models.
- RAROC 2020 and Altman (1997) use the market value based model to derive portfolio value.

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Prior Work by Practitioners

- Scenario Analysis (Paul Bennett, 1984)
- Optimization using industry default probability and correlations using Zeta (Morgan and Gollinger, 1993).



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Bennett, 1984

- Qualitative.
- Specify individually what can happen to quality rating in response to changes in external factors.
- Roll up the impact in the various segments of the portfolio for various scenarios.

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Morgan & Gollinger 1993

- Derive industry average Zeta scores over time (Zeta is a model that measures the risk of default).
- Derive correlation from the time series.
- Use industry average prices.
- Derive optimum weights based on minimizing Zeta variance for a given level of portfolio Zeta.

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Altman's Two-State Model

- Altman (1997) uses unexpected loss as a measure of default severity.
- For an individual asset it is a function of the standard deviation of default probability based on actual default rate over time.
- Correlation of default probability is measured from historical default rates.

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Altman's Two-state Model

- Unexpected Loss corresponds to severity of loss -- capital is provided to absorb unexpected loss.
- Expected loss is handled through pricing.
- Portfolio Unexpected Loss is minimized leading to efficient use of economic capital
- May be used for Capital arbitrage.

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CreditMetrics

- Generates portfolio value at risk distribution
- Multi-state model driven by risk ratings.
- Future ratings are derived based on a simplification on asset value thresholds.
- Future ratings are driven by indexed equity returns.
- Future values are developed from DCF using forward zero coupon yield curve.

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CreditMetrics Continued

- Concept of asset value returns adapted from KMV.
- Asset values are determined by historical stock prices.
- Asset value distribution is assumed to determine the future rating.

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CreditMetrics

- Values are obtained by a Monte Carlo simulation.
- Various measures of portfolio risk are derived. Most important quantity is the probable loss at 95 percent confident level.

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CreditRisk⁺

- CreditRisk⁺ models defaults as a Poisson distribution using long term default rates.
- Default rate volatility is assumed to define default correlations as well.
- Exposure is divided into sectors that are presumed to be statistically independent.

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McKinsey (Wilson) Approach

- Models the entire balance sheet.
- Uses macro-economic drivers such as unemployment rate, GDP growth: the correlations are conditional.
- Econometrically derived default rates.

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Conclusions

- These models are “work-in-progress” rather than finished solutions.
- Their degree of applicability may vary greatly across institutions and countries.
- Process is more valuable than the ultimate product. Judgment plays a greater role than data
- New products and data will drive new solutions



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Financial crisis and international architecture:
a Eurocentric perspective

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Financial crises and international architecture: a "Eurocentric" perspective¹

Jorge Braga de Macedo²

1. Introduction

Recent financial crises in emerging markets strongly affected thinking about international architecture. There has been reluctance in planning global reform and rather little has been done to enhance surveillance on a regional scale. The rapidity of American response to Russia's 1998 financial crisis, Japan's recurrent difficulties and an apparent European indifference to emerging markets made perceptions in major economies more diverse than they have been in decades.

As global integration advances, greater prosperity will result – as long as governance improves and people do not feel excluded from the reforms. Similarly, the new financial architecture should combine global unity with regional and national diversity. The Euro-zone experience and the strength of the dollar over the last year both suggest that markets doubt this combination can be achieved in practice.

Yet the current international system goes beyond American national interest in preserving world stability and it calls for a more effective regional and global response to threats of contagion of national crises. Co-ordination mechanisms among monetary and fiscal authorities like the ones found in the European Union (EU) and in the Euro-zone rely on economic and societal values shared among sovereign states and are one such response³.

Could the Central European Free Trade Area (CEFTA), the Association of South East Asian Nations (ASEAN) and the South American Common Market (Mercosul) adopt them?⁴ Bill Branson et al. (1998) suggested that CEFTA members use EU surveillance methods. Last April, Argentina and Brazil "set a timetable for ... a set of economic convergence targets similar to those ... that led to the euro"⁵.

Without calling his proposal "Eurocentric", Fred Bergsten (2000) advocates a tripartite currency world whereby the European experience is applied to ASEAN plus Japan, Korea and

¹ Prepared as background material for a panel on *The future of Mercosur*, to be held at the Central Bank of Argentina, Buenos Aires, August 24, 2000. The expression in the subtitle was first used during a panel on *Are we in a global economic crisis?* held at a Yale Economics Reunion, 17 April, 1999 during which I evoked the memory of my former teacher Robert Triffin. The material was also presented at panels on *Multilateral surveillance* (meeting of the Portuguese presidency of the Ecofin on May 6, 2000 at *Centro Cultural de Belém*) and on *European identity and development* (meeting of Development Ministers held by the Portuguese and French EU presidencies on 30 June, at *Centre de Conférences Internationales*).

² The author is president of the OECD Development Centre, but the views expressed remain personal.

³ In spite of a similar emphasis on co-operation, Smith and Naím (2000) only mention the European experience in their opening paragraph: "Jacques Delors looked dumbfounded...when he was invited to identify Quebec's separatists with the progress of history." and they go on to speak of "the turbulence of a world tensed between globalism and localism". I leave the word "Eurocentric" in quotation marks (with thanks to Colm Foy for the suggestion) because the wider applicability of the European experiences hinges on the "centre" in Europe not being a nation-state, but rather a community thereof, as argued in the text.

⁴ Goldstein (1998) recalls "vague proposals of creating a common Mercosur currency" made at the 1997 Montevideo summit and concludes that, "contrary to the recent experience of Europe, regional integration per se cannot constitute an incentive to macroeconomic prowess, since there are no virtuous criteria to which Mercosur countries are obliged to converge" (p.377). See also Eichengreen (1998) and Goldstein (2000).

⁵ Economist (2000), which continues "Uruguay and Paraguay, Mercosur's other full members, will be invited to take part, as eventually will associates Chile and Bolivia". As discussed in the text below, and more fully in Macedo (2000), this is an example of flexible integration.

China. The same argument could be made with respect to the North American Free Trade Association (NAFTA) or to the Southern African Development Community (Sadec), even though the existence of a dominant player might strain the multilateral perspective taken here. Over and above the parallels between the 1997/99 emerging markets crises and the Mexican devaluation of December 1994, the lessons from the crises in the Exchange Rate Mechanism (ERM) of the European Monetary System (EMS) may be helpful in emerging markets. In effect, the crises were overcome by more effective co-ordination mechanisms among monetary and fiscal authorities, the ERM code of conduct⁶.

The importance of international banking supervision, including better risk management along the lines proposed by the Bank of International Settlements (BIS) would now be more explicitly acknowledged than it was in the management of the EMS crisis. The adaptation of the ERM code of conduct to improving international financial architecture would also support the creation of new networks including major emerging markets, such as the BIS itself⁷.

The experience with codes of conduct has great potential impact on development because such codes can only be supported by multilateral commitment. In the case of aid governance, possible codes of conduct involve more elaborate forms of peer pressure among donors and recipients alike. The partnership strategies agreed upon in the OECD, for example, were not sufficient to create a commitment to the untying of aid to the least developed countries. Other multilateral initiatives have also been plagued with execution difficulties well beyond those encountered in both the Euro-zone and the EU.

The text is divided into six sections. Section 2 defines the "Eurocentric" perspective. Updating my work with Hervé Carré (1994), section 3 describes how the ERM code of conduct became a powerful convergence instrument. This is followed by an overview of financial crises in emerging markets⁸. The implications for international financial architecture are in section 5. Section 6 concludes that regional co-ordination mechanisms among monetary and fiscal authorities are consistent with global plans for the reform of the international monetary system, as long as the institutions of global governance are capable of preventing reversions into trade or financial protectionism.

2. The "Eurocentric" perspective defined

The respect of property rights and open markets for goods, services and assets have become widely accepted principles for the organisation of economic activity everywhere, including mature democracies as well as emerging markets⁹. These two principles, which may be described respectively as governance and globalisation (G&G for short), became accepted through a complex process of peer pressure which began with the collapse of the Soviet Union.

The existence of institutions of global economic and financial governance, such as the IMF, the World Bank or the WTO also helped spread the results of alternative policy paths among their member states, thereby reinforcing the notion that some paths worked better than others. The wide acceptance observed suggests that national policymakers follow these two principles in part because they see other policymakers do the same.

⁶ The ERM code of conduct is described in Macedo and Carré (1994). The analysis is updated in Section 3 below.

⁷ In drawing the *users' guide* of the OCDE Development Centre, the author emphasized the role of the G-20. See Section 5.2. in the text, note 46 below and www.oecd.org/dev

⁸ Section 4 adapts Macedo (1999)

⁹ The empirical basis for this claim is discussed in Macedo (2000), where the relevant literature is cited. The conjecture that better policies be emulated across sovereign jurisdictions is central to the "Eurocentric" perspective. I am grateful to Tim Besley for making me aware of the concept of "yardstick competition". discussed in section 2.

Under what conditions does peer pressure bring about improved performance? The issue has been addressed in the context of “yardstick competition”, a term coming from industrial organisation which has been applied to the political economy of state taxation in the United States by Tim Besley and Anne Case (1995). Yardstick competition was originally proposed as a means to address the inefficiency of “cost-of-service” regulation of franchised monopolies. The welfare inefficiency derives from the fact that the regulator adjusts the firm’s prices to equal the costs it incurs in providing service to consumers at each point in time. If prices track costs, the monopoly has no profit incentive to minimise costs.

What the regulator needs is some relatively simple benchmark, other than the firm’s present or past performance, against which to evaluate the firm’s potential¹⁰. Andrei Shleifer (1985) suggested comparing similar regulated firms with each other. For any given firm, the regulator uses the costs of comparable firms to infer a firm’s attainable cost level.

This does not fully overcome moral hazard problems and the scheme is susceptible to collusive manipulation by participating firms. Yet both the punishment strategy of the regulator and the difficulty in co-operating to impose collusive behaviour make collusion unlikely in the example of health care chosen to illustrate the approach¹¹.

Therefore, adapting the same reasoning, when there is peer pressure among national policymakers to respect property rights and to open markets for goods, services and assets, the two principles are likely to become more and more accepted, as they have been. But the reward from globalisation in terms of higher standard of living cannot be reaped without substantial improvements in policy, including both corporate and democratic governance.

Indeed, risk increases with the reward. If a financial crisis destroys a fragile civil society, then the combination of political and financial freedom found in mature democracies may seem unattainable even to some of the members of the OECD. Peer reviews have traditionally enhanced competition for better policies among OECD members, but benchmarking may take some time to spread to new members.

Financial crises have affected emerging markets much more than aid-dependent countries. The reason is that an economy heavily dependent on official development assistance is typically unable to borrow in international financial markets. In this way, exclusion has a paradoxical insulating property. The paradox comes from the fact that the apparent risk reduction comes at the expense of the rewards foreign savings may bring to the national economy¹². Nevertheless, this threat is perceived to be more pronounced in the least advanced countries than in emerging markets, leading to calls for “inclusive globalisation”¹³.

Most OECD countries are gathered around the seven richest economies (G-7), whose leaders have regularly met over the last quarter century, suggesting a response to international interdependence rooted on sovereign nation states¹⁴. The perspective taken here is called “Eurocentric” to stress that, among them, only the four European states have attempted to deal explicitly with their regional architecture, so that the presidents of the European commission and central bank attend the meetings. The fact that there is no sovereign national centre

¹⁰ One obvious available benchmark is a state-owned firm engaged in the same line of business as the regulated firm. Unfortunately, state-run utilities are often too different from private firms to serve as useful benchmarks, and they are not necessarily efficient.

¹¹ Medicare’s prospective reimbursement system compensates hospitals on the basis of average costs incurred by comparable hospitals in treating patients in the same diagnostically related group. Shleifer (1985) also cites some US Defense Department contracts and relevant literature.

¹² The effects of foreign savings on growth have been disputed. New evidence on a positive link is contained in Reisen and Soto (2000).

¹³ The expression is contained in the OECD Development Centre program of work for 2001-2002. See www.oecd.org/dev.

¹⁴ Russia has been participating in some G-7 deliberations for almost ten years and after the July 2000 summit in Okinawa, seems close to becoming a full 8th member. Given that the Russian territory spans Europe and Asia, such G-8 enlargement is especially interesting for the perspective taken in the text.

equivalent to that of the United States, Japan or Canada overcomes the weakness of the current EU institutional framework¹⁵.

Certainly, the institutions of global economic and financial governance have, in one way or another, helped prevent the 1997-99 financial crisis in emerging markets from becoming a 1930's style global depression. This is true in spite of the widespread criticism of the Bretton-Woods institutions and of the spectacular interruption of the Millennium Round of the WTO launched in Seattle in late 1999.

Parallels between free trade in goods and services and free mobility of capital (or labour) are analytically dangerous to make. In any event, the stability of the global trade architecture which led to the creation of the WTO should caution against purely regional solutions to financial globalisation, including European ones, lest they revert into protectionism.

The "Eurocentric" perspective claims that the multilateral surveillance mechanisms developed among EU nation-states can be adapted to build a global financial architecture resilient to financial crises. To begin with, its intercontinental domain reflects longstanding cultural and commercial ties. Moreover, such "Eurocentric" perspective of the international financial architecture probes into budgetary procedures and corporate governance standards, in ways that may offend national sovereignty if applied to Washington or Tokyo¹⁶. In the OECD peer reviews and in the standards agreed upon at the BIS, unanimity is required so that national sovereignty is entirely preserved. The procedures of the EU are closer to the regulatory framework just outlined, because of the role of the Commission as regulator and that of the Court of Justice.

The "Eurocentric" perspective does not focus on balance of payments adjustment, but rather attempts to bring together principles of good government commonly accepted in Berlin, London, Paris and Rome and indeed jointly transferred to Brussels and elsewhere. In particular, as mentioned in Subsection 3.4, the European System of Central Banks (ESCB) provides price stability as an international public good.

This "Eurocentric" perspective has weaknesses, however. The degrees of commitment to the EU and to each one of its main institutions have been changing in various issue areas, as a partial response to a more turbulent global and regional environment. The Euro was created in January 1999 among most of the fifteen member states but it was followed by a difficult institutional period, which has also delayed the accession calendar. Albeit conjunctural, the reasons for the delay underscore one weakness of the "Eurocentric" perspective: peer pressure is sometimes used to stall reforms, rather than to promote them¹⁷.

The other weakness, which is even more serious in times of global financial turbulence, is that the four members of the G-7 often forget their eleven "peers" when discussing global affairs at the level of the G-7, of the OECD, or of the Bretton Woods institutions. The two weaknesses may be related and they explain the bewildering complexity of the EU institutions at the moment. Nevertheless, the strengths of the perspective can be put to good use in the global arena, as long as "Eurocentric" is understood as a partnership open to other nations, in

¹⁵ Indeed, it has done so in ways that include bridges towards the former Soviet bloc, Africa and Latin America. Each of these bridges is of interest for the "Eurocentric" perspective, to the point that the expression itself may become inadequate. There should of course be no implication of imperialism stemming from this word. I am indebted to colleagues at the OECD Development Centre for bringing up the possible negative reaction of some groups to the word. As implied by note 2 above, though, neither the Centre nor its member states are taking institutional positions on this matter.

¹⁶ The absence of a EU military capability is a feature of the "Eurocentric" perspective which becomes a severe weakness in times of war.

¹⁷ This would be the equivalent of a collusive equilibrium in the regulatory mechanism outlined above. Similarly in the tax setting model, there is no presumption about the welfare effects of government expenditure (level and composition), even though evidence that state spending may respond to spending decisions in neighbouring states is quoted in Besley and Case (1995).

Europe and elsewhere. Within those principles, some of them are taken further on the continent, along the lines of "flexible integration"¹⁸.

To make the temptation offered by regional solutions worse, the crisis and its aftermath have also uncovered an unusual amount of disagreement within the Bretton Woods institutions. And if they do even appear to agree with each other, the IMF and the World Bank may not be capable of influencing the architecture of the international economy. But if they appear to disagree, then clearly their advice on co-ordination will be less credible¹⁹.

3. Lessons from the EMS

3.1. The code of conduct

After the demise of the Bretton Woods system of fixed but adjustable exchange rates in 1973, various continental arrangements to stabilize exchange rates were tried, the last of which was the EMS, created in 1978 by a Resolution of the Council of Finance Ministers of the Union (EcoFin) and supported by an agreement among participating central banks.

The primary objective of the 1986 Single European Act was achieving free trade in goods and services and assets, as well as free movements of people among twelve nation-states. In turn the abolition of internal borders created market pressure for stable exchange rates in terms of the European Currency Union (ECU) basket. Accordingly, the EMS functioned without any realignments after January 1987.

The progress towards the single currency accelerated in the late 1980s. At the Madrid European Council in 1989, the report of a Committee of Central Bank Governors chaired by the President of the European Commission was accepted as a basis for Economic and Monetary Union (EMU). The single currency was to be achieved in three stages, beginning July 1, 1990. Rather than relying on national reserve currencies, a new currency was chosen, the ECU. It was renamed Euro at the Madrid European Council of 1995.

Over the years, a code of conduct built up as the ERM developed from a mere exchange rate arrangement into a powerful convergence instrument. In addition to compulsory intervention, for unlimited amounts, at the agreed bilateral limits and to the need to reach a consensus for modifying a parity; the Basle-Nyborg Agreement called for convergence to establish and maintain stable exchange rates. The rules also refer to the creation of ECUs through swap operations, to the provision of currencies for intervention purposes, to the settlement of claims arisen from intervention, and so on. The ERM code of conduct implied the acceptance of the DM as the anchor of the system and thus the recognition of the leadership of the Bundesbank. It gave a prominent role to co-ordinated interest rate changes in the management of the system and also involved a consensus on crisis management.

Shortly after the first stage of EMU began, Britain joined the ERM. Sterling appeared to trade its past allegiance to the broad Atlantic standard for a narrower continental bloc. This first experience lasted less than two years but it involved Britain in the design of multilateral surveillance procedures which turned out to be decisive for the sustainability of the system. In that dimension, the rules of the game changed for all the twelve states who signed the Union Treaty.

The plans for the single currency were agreed upon at the Maastricht European Council in late 1991. They were conditional upon convergence and cohesion, as explained in subsection 3.4 below. The second stage of EMU was set to begin on January 1, 1994. The third and final

¹⁸ The argument is made and the literature is reviewed in Macedo (2000).

¹⁹ Some claim that the tension between the two sister institutions (with staff about 10000 at World Bank and 2700 at IMF) actually helps. In spite of the Meltzer report, it looks like the IMF is here to stay, unmerged.

stage of EMU was to begin after the 1996 revision of the Treaty signed at Maastricht if convergence was sufficiently high, and in 1999 if not²⁰.

In the Spring of 1992, all Community currencies except the Greek drachma were in the ECU parity grid. But the Atlantic dimension was very weak. Even in the presence of sterling, the continental bloc continued based on the Dmark. Indeed, it included currencies of countries in the European Free Trade Association which were to become members of the union, like Finland and Sweden. In September 1992, sterling and the Italian lira left the ERM. Until August 1993, political instability and speculative attacks on the grid interacted with the most severe recession and with the highest unemployment the Community ever witnessed.

The single market for financial services, established in 1993, built on the operation of the ERM code of conduct, which, at one time or another, all of the EU member states followed²¹. The gradual acceptance of stability oriented policies by means of peer pressure is at the heart of the ERM code of conduct. The code remained valid after the widening of the bands, even though the obligation of compulsory intervention for unlimited amounts at the agreed bilateral limits was unlikely to be applied.

The need to reach a consensus for modifying a central rate remained, as the parity grid was not changed by the decision to widen the fluctuation bands. It is also noteworthy that the economic priorities of the Treaty (low inflation, sound public finance, medium-term stability framework) remained undisputed among member states and Community institutions, stressing the need for convergence to establish and maintain stable exchange rates.

During the second stage of EMU, multilateral surveillance procedures designed to ensure convergence of national economies towards price stability and sound public finances became binding. The excessive deficit procedure, in particular, determined whether or not a member state could adhere to the single currency. Since convergence was not achieved in a majority of national economies, the EcoFin Council set for 1999 the beginning of the third stage of EMU when exchange rates become irrevocably fixed and the Euro becomes the single currency.

3.2. Managing the crisis

This transition to the single currency included both the first and the second stage of EMU, during which convergence must be achieved under stable exchange rates called "normal fluctuation margins" in the Union Treaty. With high capital mobility, this requires a speedy convergence process, especially as reflected in the indicators of budgetary discipline, which have become signals of sustained regime change.

Given that financial markets tend to exaggerate rather than to dampen such signals, apparent reversions during a relatively rapid convergence are also more liable to misinterpretation. The cohesion objective involves a degree of social awareness that may not be required with respect to the convergence of fiscal variables. In any event, whatever the credibility of national policies, it became apparent during the first stage that fast convergence was more difficult with slower growth. Moreover, during the transition, the main macroeconomic costs arise before the main microeconomic benefits are felt.

The Treaty convergence criterion relating to exchange rate stability requires the observance of the "normal fluctuation margins" during two years, and not having been involved in any realignment during the same period (or at least not having initiated one). Maintaining the currencies within the parity grid is the result of more than intervention by participating central

²⁰ As mentioned below in the text, the convergence rules are made explicit in criteria referring to certain nominal and fiscal variables aside from observing the rules of the ERM.

²¹ Greece joined the ERM in Spring 1998, Austria joined with accession in 1995 and Finland in October 1996. As mentioned in the text, even Sweden who, unlike UK and Denmark, does not have an opt-out clause, shadowed the ERM before the 1991 banking crisis.

banks. It reflects the credibility of national policies especially in Germany, and also that of the entire EMS relative to major currencies such as the dollar or the yen.

If, in the final analysis, the exchange rate reflects the credibility of national policies over the medium term, it may do so with considerable noise if the entire parity grid is under attack. This is why little indication about the credibility of national policy can be gathered from the realignments which occurred during this period, which were a direct consequence of systemic turmoil.

Speculative attacks on more vulnerable currency parities will have more negative effects on the system if parities are already locked than if they continue to be flexible. Flexibility within a sufficiently wide band allows speculation not to be a one-way bet. That lesson was learned in the twelve months preceding August 2, 1993 when very wide bands of 15% replaced the normal fluctuation margins. The temporary nature of the move notwithstanding, these new "normal fluctuation margins" eliminate the need for exceptional measures, such as exchange controls, designed to deal with a protracted second stage of EMU. At least, the experience until the fall of the dollar in early 1995 suggests that the widening of the bands stabilised expectations of exchange rate changes.

In particular, foreign exchange market turbulence began in late August, early September 1992 when dollar interest rates fell substantially. In the meantime, German short-term interest rates remained high. Pressures for wage increases increased the reluctance of the Bundesbank in acknowledging that a European wide recession was imminent. The policy conflict led to the exit of some currencies from the ERM and to speculative attacks against others. The attack of July 1993 was so massive that an emergency meeting of the EcoFin Council including Central Bank Governors was convened and exchange rate fluctuation margins were broadened to 15% on each side of the parity.

The 15% wide band was not used by any participating central bank and margins of 2.25% were observed between the Dmark and the Dutch guilder. The basic difference relative to the previously normal fluctuation margin was the absence of one-way bets on parities. The external discipline provided by the grid no longer obtained and each central bank decided whether or not to intervene within the old fluctuation bands. Most decided to do just that, so that the convergence process was not hurt by the decision to widen the band.

It has been argued that the ERM was intrinsically unstable since fixed exchange rates, independent national monetary policies and free capital movements are inconsistent. After full liberalisation of capital controls, the ERM was in danger of falling into the inconsistent triad, but instead EMS countries chose to give up their own independent monetary policies. The role of the DMark as the anchor of the system became undisputed and the maintenance of policies aimed at exchange rate stability, even after the widening of the bands, added to the credibility of the commitment to EMU. In that sense, the widening of the bands was a positive step towards the Euro.

Indeed, except for the Dmark, most of the former national currencies ("legacy") could neither float nor credibly fix without a well defined institutional framework for yardstick competition such as the ESCB and the 1996 Stability and Growth Pact, designed to supplement the excessive deficit procedure contained in the 1992 EU Treaty. The pound sterling and the Swedish krona follow an inflation targeting monetary rule which allows the exchange rate to float, but in fact the latter has been fairly stable against the Euro²².

²² Calvo (2000) discusses the similarities between hard pegs and inflation targeting in emerging markets. The question of credibility is different in EMS members because they are more used to peer pressure mechanisms as mentioned in note 9 above.

3.3. Geography

During the EMS crises, therefore, speculative attacks had less to do with the credibility of national policies and the medium term resolve of national authorities, than with the reflections of the overall turbulence. It threatened the reputation for financial stability in a small national market, to the extent that national policies become less relevant than the proximity to a turbulent large market.

Examples of this effect of "geographic" rather than "economic" fundamentals on the value of currencies were provided by Portugal and Ireland, who suffered currency attacks based on what was happening to the Spanish and British currencies. The attacks were short-lived but they nevertheless led Ireland to request a realignment in January 1993 and Portugal had partly to follow several realignments of the peseta²³.

One possible reason is that the financial reputation of these countries was not fully established as their regime change was quite recent (1987 for Ireland, 1989 for Spain and 1992 for Portugal). A related reason is that testing the ERM parity made sense when the real appreciation was perceived as excessive by export-oriented firms and the government may have been sensitive to their pressure. The bet proved to be correct for Spain, which initiated two realignments during the ERM turmoil. The Portuguese response was to follow in part, so as to reinforce its own credibility without suffering the direct consequences of a competitive depreciation²⁴.

The reason why the convergence process was not hurt by the decision to widen the band was that external credibility, while necessary for medium term policy credibility of any nation-state, is never sufficient. This was again apparent in the turbulence in early March 1995, which led Spain to ask for a new realignment in spite of fairly sound fundamentals. The lack of political stability was undermining the confidence in the currency²⁵.

3.4. Convergence and cohesion as a public good

The ERM was therefore an instrument of convergence towards the single currency, to the extent that it was flanked by other instruments, specified in the Maastricht Treaty and in subsequent resolutions like the Stability Pact. These are essentially a timetable, the specific procedures of multilateral surveillance, the convergence programmes, the excessive deficit procedure. In addition, progress towards independence of national central banks was

²³ As finance minister of Portugal responsible for the escudo's entry into the ERM in April 1992, I followed this crisis and the responses that were found by the Ecofin. The tests about how the escudo fared under the attacks is discussed in Macedo, Nunes and Covas (1999) confirm that financial reputation was achieved in 1993 with the rating upgrade. Lessons for transition can be found in Macedo (2000).

²⁴ The account by *Diario de Notícias* of 26 May 1994 is worth quoting: "The forex and capital markets were in crisis yesterday after rumours, originating abroad, of a coup d'état in Portugal. At the end of the day the market operators laughed about the rumours. But earlier in the day the Bank of Portugal had to intervene to protect the escudo....The rumours seemed to have arisen from the interpretation of a story published by US based news agency Bloomberg about the resignation of the director general of SIS Serviço de Informações e Segurança (Information and Security Services) on Monday...The rumours first reached Lisbon daily *Diario de Notícias* when stock market operators telephoned the paper in panic asking about the political and financial scandal they believed was breaking in Portugal. They had heard that SIS was to announce the results of its phone tapping, revealing a major scandal. They also said the escudo was going to leave the ERM and that the EU monetary committee had already set up a meeting. The rumour also said a bank was going bankrupt, the governor of the central bank was to resign and the treasury and central bank had contradictory interest rates. The rumours were far fetched but affected the market." One month later, a major reshuffle of the central bank board due to the sequels of the Totta-Banesto case did involve the governor. Further references in Macedo et al (1999).

²⁵ This is of course another manifestation of policy credibility at the level of democratic governance, social cohesion or both.

impressive during stage two of EMU, as was the fact that the public sector can no longer be financed by central banks or by privileged access to financial institutions.

The European Monetary Institute was established at the end of stage one of EMU in order to contribute to the realisation of the conditions necessary for the transition to stage three and the creation of the European Central Bank also proceeded on schedule at the end of stage two of EMU. The fact that stage three was delayed from 1997 until 1999 may actually have helped prevent an excessively fast politicisation of monetary policy. The politicisation would increase the temptation to soften the excessive deficit procedure, raising fears that some governments will expect to be bailed out by the union, in contradiction to Article 104b of the Treaty.

Once again, an effective multilateral surveillance is required, supported by all member states. The effectiveness of multilateral surveillance is decisive for medium term policy credibility at national and union level. Indeed properly used, all of these instruments and procedures effectively delivered convergence and cohesion.

Non-compliance with this code of conduct played a major role in the development of the currency turmoil, but after August 2, 1993 the EMS regained stability, thanks to the widening of the fluctuation bands, which limited speculative pressure by eliminating one-way bets and reintroducing two-way risks. While the Euro remains sensitive to sudden changes in the value of world currencies such as the dollar or the yen, the set of principles, rules and code of conduct which underlies the EMU in stage two proved correct.

In addition, political stability or social consensus and national cohesion were decisive to achieve convergence. Social consensus implies, first and foremost, that social partners and public opinion understand and accept the medium term stance of economic policy. In particular, trade unions must recognise the perverse interaction between price and wage increases, which hurts the poor and unemployed disproportionately. With the feedback of wages into prices in operation, price stability will not be durable without wage moderation. The social acceptance of these norms can be turned into a factor of national cohesion if the government takes the leadership in wage negotiations for the public sector employees.

A single market with a single currency reflects a particular combination of private and public goods, determined by the mobility of the tax base and the availability of inter-regional or inter-national transfers. Article B of the Treaty refers to "the strengthening of economic and social cohesion" as instruments of "economic and social progress which is balanced and sustainable". Therefore, some income redistribution among nation states is supposed to correct the economic geography that market integration brought about.

There is a recurrent European debate about whether multiple-speed convergence towards union objectives is possible and desirable. It is probably inevitable in the case of a single currency as divergences existed among the 15 EU members, and are not likely to disappear. Since it turns out that all member states have met the entry criteria for EMU (independently of the willingness to join for Denmark, Sweden and the United Kingdom), the case for flexible integration has been strengthened by the Euro²⁶.

The hierarchy of financial markets is linked to the geography of the single European currency. Where local financial monopolies exist, differences between interest rates at the core and at the periphery may endure, even in the presence of full currency convertibility and perfect capital mobility among core markets. Belonging to the convertibility and stability club is nevertheless useful to the extent it signals to market participants that the country is keen on achieving external credibility without relying only on instruments it could control - and might therefore manipulate.

In this sense therefore a converging country is also attempting to buy domestic credibility for its efforts. This is the only way in which the national authorities could escape the adverse

²⁶ On flexible integration, see Macedo (2000).

selection bias from which new participants in the international capital market have been shown to suffer. The notion of medium term policy credibility emerges as essential in the evaluation of how the regime in the Treaty combines convergence and cohesion. This credibility hinges on the functioning of the EMS and on the institutional framework of EMU. To the extent that they allow for yardstick competition, the Euro becomes a public good²⁷.

Traditionally, system stability has been provided by the largest national economy. The provision of the international public good is made in ways that are often determined by national traditions and institutions. The role of treasuries and central banks from America, Britain, Germany and Japan have a lot to do with some of the features of the IMF²⁸. The provision of the international public good is also in the national interest, which in this case is often represented by institutions sensitive to the needs of the taxpayer and therefore more prone to understand and fight against the incentive of each one of the member countries to free ride. In the "Eurocentric" perspective, there is no dominant player, so that procedures relying on peer pressure, or yardstick competition, had to be devised and implemented.

The incentive to free ride on the public good is indeed greater for the small countries but without a decision to join which can be domestically supported, the benefits of convertibility and stability are also less apparent.

The public good element of the European single currency cannot be achieved against market sentiment, but policy credibility can overcome hierarchy. Any solution not based on the national cohesion of the member states would be unstable. No member-state is likely to remain in a slower speed of convergence against its national interest, expressed by majority vote. National and union cohesion thus became requirements for the competitiveness of European business world-wide.

In other words, the Euro is largely an enabling reform that requires additional structural adjustment. If carried out by the EU states, structural reforms would not only enhance the potential of the Euro as a world currency but also the competitiveness of European firms. This is another way of saying that the institutional framework allows for yardstick competition.

4. Financial crises in emerging markets

4.1. Chronology

As more and more currencies became fully convertible into each other during the second half of the 1990s, financial interdependence was no longer confined to a few mature democracies. Across the global economy, national financial policies came under increased scrutiny from international investors and rating agencies. Interest rate spreads of emerging markets over established borrowers fell. But there were also sudden reversals in investor sentiment, which led to massive capital outflows and dramatically increased these same spreads.

The role of "news" in generating sudden changes in beliefs is such that crises can hardly be forecast: the success rate at predicting them is less than one third (25-30%). The reason is that two types of errors must be balanced against each other: not to predict crises that do occur and to predict crises that do not occur. Detecting vulnerability is very different from predicting the timing of a crisis.

This is why perceptions on the part of investors and opinion makers matter so much. Depending on the perception, a crisis can become self-fulfilling instead of being countered by effective management. Information about future market perceptions can help national and international policy-makers develop and implement appropriate responses, that is to say

²⁷ The same argument is made with respect to the gold standard in Macedo, Eichengreen and Reis (1996).

²⁸ This is another reason why the EU procedures may provide a model for the global surveillance performed by the IMF.

responses which re-establish confidence. But better information alone does not succeed in predicting, let alone in preventing, financial crises.

Shortly after the EMS crisis was overcome, the attack on the Mexican peso in December 1994 and had ripple effects in 1995 in both South America and Central Europe. A plausible explanation of the "tequila" crisis, insufficient savings, was readily found. There were no significant contagion effects and soon international investors were accepting larger emerging market debts²⁹. That is until the third and most serious wave began.

It lasted two years, ended shortly after the launch of the Euro and led to calls for a reform of the international financial architecture, which would make it more resilient to crises. This is also why the architecture advocated in the next Section applies the ERM code of conduct to groups of emerging markets willing and able to follow it. Before dealing with architecture, a brief chronology of the third wave of crises helps focus on the problems of emerging markets and the contrast with the EMS crises described above.

The successive crises in emerging markets began in Spring 1997 when a minor attack on the Czech koruna resulted in its devaluation. However, the Thai baht floated in the Summer of 1997, reversing an implicit dollar peg which had been pervasive in the fast growing economies of the ASEAN, and Malaysia, Indonesia and Philippines also experienced attacks on their currencies.

Currency and banking crises spread to other Asian economies in the Fall of 1997, appearing to threaten the role of Hong Kong as a financial centre ruled by, but separate from, China. The Republic of Korea, like the Czech Republic a recent member of the OECD, suffered a combined currency, banking and debt crisis. Japan, a mature democracy and a prominent member of the G-7, was seen as part of the problem. Only China, whose transition to market and to democracy had yet to begin, was seen as capable of keeping financial stability in the region.

The prevailing perception was of an emerging markets crisis which hurt the borrowing capacity of Asian, Latin American and Central European debtors. The continued weakness of the Japanese currency exacerbated the negative impact of the financial turmoil on Asian growth throughout the Spring of 1998. South Africa followed while Russia floated the rouble and defaulted on its domestic debt in late August. Brazil succeeded in keeping its dollar peg in spite of several attacks in September, on the eve of a crucial presidential election.

Long Term Capital Management, a hedge fund which bet aggressively on declining spreads for emerging markets and which was thought to be "too smart to fail" had to be rescued from bankruptcy by some of its clients, the major global players. The operation, arranged by the New York Fed, was followed by the lowering of interest rates in the US in September, on the eve of the meetings of the IMF and the World Bank. Both measures suggested that the emerging markets crisis had spread to the North Atlantic and was hurting growth prospects in the EU and the US. There were also threats of further contagion to Latin America, let alone to Hong-Kong and China. Brazil did devalue the real in January 1999, but the rapid adaptation to a more flexible regime and reforms on the fiscal front improved the financial situation. Accordingly, the fear that the emerging markets crises would become global subsided.

One specific lesson from the Brazilian crisis is the need to involve the private sector in a solution, as the IMF cannot make private portfolio decisions for banks. The attempts of the Brazilian government to keep banks rolling over their credits were successful, as creditors realise the importance of not moving when others stay in.

Because of these developments and of the continued strength of the US economy, the spring meetings of the IMF and the World Bank signalled the end of the emerging markets crises. World growth prospects in 1999 were subdued largely because of the lasting negative effects

²⁹ No effect on Portugal could be detected in a regime switching model of weekly changes in the escudo-Dmark rate from 1987 to 1998, as documented in Macedo, Nunes and Covas (1999). See, however, note 24 above.

of the previous two years of financial turbulence spreading from the Pacific to the Atlantic, but once again the US economy showed resilience and global prospects remain very positive.

4. 2. Causes and responses

4. 2. 1. Definitions and caveats

The notion of emerging market hides a lot of different national and regional circumstances. If the notion of emerging market encompasses too many varieties, that of financial crisis is often misused. The term applies best to a combination of currency, banking and sovereign debt crisis with strong negative effect on the national economy.

The definitions of emerging markets and financial crisis help understand that the appropriate level of policy response may no longer be national, but instead become regional or global, depending both on contagion mechanism and on the availability of instruments and institutions.

4. 2. 2. Fundamentals vs. financial panic

The main source of debate hinges on the role given to fundamentals vs. financial panic. Both are probably at work, so interpretations often depend on a balancing of each factor. If structural problems and policy inconsistencies make it inevitable that a combination of currency, banking and debt crises will lead to a financial crisis with severe real consequences for the national economy, then the root causes must be addressed, at the risk of encouraging moral hazard behaviour³⁰. Crises are cumulative processes, which have a self-fulfilling character, therefore their costs end up being much greater than called for by the fundamentals. Then prevention efforts make sense almost always.

4. 2. 3. List of causes

One way to solve the debate between the two camps is to look for areas of agreement in what are causes of a financial crisis. The list of favourite causes still leaves a great deal of room for interpretation but it helps focus on the disagreement³¹. That bad shocks and policy mistakes make things worse is uncontroversial but the practical question is rather how the severity and duration of the bad shock and the irreversibility of the policy mistake make a difference to the perception of crisis. The attack on the Czech koruna, for example, was short-lived because devaluation was coupled with a temporary import deposit and measures to deal with the fragility of some of the financial institutions³².

There is again consensus on the statement that large and free foreign exchange reserves, and/or a flexible exchange regime reduce the probability of a crisis. Yet it may not be possible to agree on what finite level of free foreign exchange reserves and exchange rate flexibility averts a crisis. The existence of an international lender of last resort would help if it does not exacerbate moral hazard. For fundamentalists this is a bigger "if" than for those who hold that

³⁰ Eichengreen and Hausmann (1999) and Goldstein (1999).

³¹ The distinction between areas of agreement and disagreement is taken up in Ocampo 1999.

³² Drabek and Brada 1998 claim that the Czech peg lasted too long and led to an unstable trade policy. They also point out that before the crisis most economists viewed the currency experience favourably. Another cost of this policy was that capital account liberalisation was conducted to alleviate exchange rate pressure even when it aggravated problems of corporate governance. This pattern is reminiscent of the relaxation of the import deposits in Chile in 1998.

crises are self-fulfilling. Of course, both sides agree that a crisis always has a combination of causes.

On the economic doctrine, keynesianism seems to have made a comeback. The view that fiscal contraction may turn out to be expansionary due to strong positive confidence effects, is no longer held³³.

4. 2. 4. Anatomy of crises

A financial crisis comes in many forms - because it combines a currency collapse, with or without resort to exchange controls, a bank run or the threat thereof and a debt default or moratorium. Its anatomy often includes the expected bailout of private debts by the state, or by international institutions. Such expectations are easier to form in the presence of cronyism and with weak corporate governance³⁴.

Even in countries with high savings ratios, investment booms brought about by expected bailouts generate large current account deficits and real appreciation. If these deficits are financed by short term foreign currency unhedged liabilities and by the ever greening of bad loans, it is tantamount to making private debt into an implicit public debt.

4. 2. 5. Indicators

When crises loom, there is a great deal of interest in advance warning systems. Nevertheless there has been little progress in developing practical crisis indicators. Foreign exchange reserves, for example, are still compared to imports with reference to the so-called "3 month IMF rule", without taking into account the exchange rate regime. A better candidate for normalisation, especially for inconvertible currencies, would be external debt. Under a fixed rate and free capital mobility, reserves should instead be compared to the broad money stock (M2). While reserve adequacy depends on the exchange rate regime, none of these average measures are satisfactory under uncertainty. Reserves should ideally be related to the volatility of the current account or of short term capital flows.

A high ratio of bad loans to total loans is another indicator which has been used in looking for evidence of a lending boom. The increase in real lending to private sector and state owned enterprises is in turn how a lending boom is identified. The usual criterion for internal balance, namely a sustainable fiscal position, was absent in the Asian economies but it remains a serious problem in transition economies and especially in the Russian crisis³⁵.

Real appreciation in terms of effective rates is another early warning indicator. There again, care must be taken to net out the equilibrium component of real appreciation which has accompanied any successful development experience.

4. 2. 6. Financial fragility

Financial fragility is seen as decisive in the combination of currency, banking and debt crisis. In that context, the maturity of capital inflows matters more than their size, because financial fragility comes from failures in the maturity transformation of short-term assets into long-term liabilities banks are suppose to provide.

Another uncontroversial point it that financial liberalization and banking deregulation require improved prudential supervision, the question being how to achieve this supervision in global

³³ The two cases that are often mentioned (Denmark in 1982 and Ireland in 1987) involved successful changes in economic regime which introduced a stability culture. The latter was mentioned in Subsection 3.3. above.

³⁴ This is another example of the need to combine G&G, emphasised above in the text. See also Macedo (2000).

³⁵ Criteria for policy sustainability in the context of transition economies are described in Branson et al. 1998.

markets. In particular, does this require a new institution? Instead, can the BIS and the IMF substitute for the role of an international lender of last resort?³⁶

The converse of the previous (uncontroversial) point is that capital account liberalisation without improved banking supervision is also found in most crises. Over-investment is the mechanism through which the combination of financial liberalisation and banking deregulation results in banking and currency crises.

4. 2. 7. Responses

Once a crisis erupts, it is difficult to take action. Indeed, if the IMF goes public about an impending crisis, it becomes even more difficult to act. Despite the advantages of multilateralism, moreover, bilateral action can still help a lot. In the cases of Russia and Ukraine, for example, if the IMF helps, it is bad; if the IMF does not help, it is also bad! Then political reasons could dictate bilateral help not constrained by the charter of the IMF. Even if action is taken on time, results from action may be modest relative to expectations, feeding into the perceptions of recurrent crises. These thoughts are sobering and they caution against plans for global governance.

National policy responses to a large capital outflow may be a combination of allowing reserves to drop, increasing interest rates, and depreciating the currency. These responses include several different measures, with different effects. In particular, depreciation may be achieved through controls, which lead to multiple exchange rates, one or several of which may remain unchanged at the pre-response level. Moreover, they tend to be combined and the relative importance of each one depends on the particular circumstances of each country. Perhaps outright depreciation is ruled out by an exchange-rate arrangement, as in a currency board. Or it may appear to be very costly in terms of financial reputation, as was the case in Mexico and Korea, which had just joined the OECD³⁷.

There may be constraints on the rise in interest rates that is politically or socially viable, and increased interest rates are more costly, the weaker the banking system. Allowing reserves to drop, on the other hand, is less likely, the lower the ratio of reserves to liquid liabilities. If reserves are low, and cannot drop further, one of the other options, no matter how unpalatable, must be contemplated.

The exchange-rate option will be more likely to be chosen the greater the real appreciation observed, but devaluation is a beggar-thy-neighbour policy to the extent that it attempts to restore competitiveness at the expense of trading partners and may elicit retaliation. It therefore needs to be co-ordinated.

As in the case of the exchange rate regime, exchange controls need to be co-ordinated: they involve almost always a devaluation in disguise. Even when they seek to prevent excessive inflows, they are often not matched by free outflows, or even by a relaxation of existing controls. This was true in Portugal in the early 1990s but can also be found in the Chilean experience, where the decision to relax its controls on inflows has been especially controversial since these controls were seen as very effective³⁸. Exchange controls were also reinstated in Malaysia in 1998/99, but their contribution to recovery is likely to have been minor.

³⁶ Calvo (2000) discusses the limitations of the lender of last resort function in emerging markets.

³⁷ The same could be said for Russia, which was increasingly being accepted into the G-7. See note 12 above.

³⁸ See Reisen (1999) and Macedo et al (1999) respectively.

5. International financial architecture

5.1. The exchange rate regime

The chronology of crises presented above suggests that during 1997-99 few opportunities for testing the credibility of exchange rate parities were missed by market operators. This made the exchange rate regime as crucial a determinant of macroeconomic stability as fiscal, debt management and banking policy. The market tests of the credibility of exchange rate parities were often successful in triggering a currency devaluation, so there seemed to be fewer and fewer alternatives to a hard peg, or even a single currency³⁹. This perception rationalised direct policy responses such as exchange controls, perhaps along the lines of the so-called Tobin tax on short term capital movements⁴⁰.

The widespread mobility of financial capital has reduced the attractiveness of exchange rates as policy instruments, thereby lowering the costs of a fully credible peg.

It turns out, however, that floating is not necessarily a viable alternative for many of the world's small open economies, unless they chose to keep the currency fully inconvertible and thereby withdraw from globalisation. In this regard, there seems to be less scope for adjustable pegs and independent floating. As described in section 3, you may need to float in order to fix. Another way of saying this, due to Jeff Frankel and Andy Rose (1997), is that optimum currency areas are endogenous.

With global financial markets, exchange rate systems involving fixed but adjustable rates or crawling pegs are crisis prone. If South Africa, Turkey or Mexico had some kind of a peg, there would have been more severe crises there. Otherwise, an extreme commitment is called for, like the Hong Kong or Argentine peg to the dollar. In other words, emerging markets should float or peg hard⁴¹.

But floating alone is no good solution as there have been wild swings in bilateral rates such as dollar-yen. The lesson of widening the ERM bands shows that multilateral surveillance beyond exchange rates is needed⁴². It is of course by allowing responses that would not obtain in calm periods that financial crises serve as co-ordinating devices. In effect, co-ordinated

³⁹ Calvo (2000) and references therein argue that pure floating seems beyond most emerging markets.

⁴⁰ Bartolini and Drazen (1997) stress the credibility effect of capital account liberalisation. See also Dornbusch (1998a). A more cautious stance can be found in Eichengreen (1999).

⁴¹ See the previous note. The conclusions of the ABCDE panel on exchange rate regimes in developing countries qualify this dichotomy by emphasizing the role of institution building, which is the characteristic of the "Eurocentric" perspective described in section 2 above: According to the OECD Development Centre Newsletter (available in the website): "Guillermo Calvo (University of Maryland) presented the case for a hard peg (e.g. through fully-fledged dollarisation), based on the effective dollarisation in much of Latin America and on the inflationary and limited role of the lender of last resort in floating currency regimes. Brigitte Granville (Royal Institute of International Affairs) collected evidence from transition economies in Eastern Europe and the Commonwealth of Independent States, to confirm that no exchange-rate regime was right for all countries at all times. Daniel Cohen (Ecole Normale Supérieure and the OECD Development Centre) stressed the importance of actual convertibility in hard peg regimes and argued that the devaluation of the CFA franc had not hurt the African countries participating, on the contrary. He concluded that the choice of the anchor currency was an essential determinant for the performance of monetary unions in developing countries. Helmut Reisen (OECD Development Centre) explored the alternatives for the financially integrated emerging markets, given that monetary independence, exchange rate stability and financial integration cannot be attained simultaneously. Giving up on one of the goals carries cost for development, the size of which is largely determined by the flexibility of the underlying regulatory and institutional framework. Participants brought other experiences to the debate, from the Balkans to Pakistan. The conclusion of the panel stressed that the European Monetary System, through the code of conduct of the Exchange Rate Mechanism provided a better framework than dollarisation because it stressed institution building and multilateral surveillance, which are crucial in emerging markets".

⁴² The launch of the Euro also underscores that with global financial markets there must be fewer currencies. This has also helped dollarisation in Mexico and Argentina to become a media issue.

systems like the one implied by the ERM code of conduct are difficult to adapt to a world system without shared values, even when they refer to what is essentially a *shared* variable, the exchange rate.

The exchange rate regime is just one instance of needed improvements in financial architecture. Nevertheless, it plays a central role in the debate on the reform of the system of international relations and its main institutions, which for the most part were established in the aftermath of World War II. This is a caveat to the application of "Eurocentric" mechanisms on a broader scale: they presume that the exchange regime is well defined.

5.2. Surveillance mechanisms: Global vs. Regional?

The issue of how devaluations and exchange controls can be co-ordinated at the regional or global level, to lessen their beggar-thy-neighbour character remains therefore predicated on handling the pattern of contagion. Geography and hegemony seem to play a role, with some evidence pointing to the role of trade and to listings of country potentials that owe more to marketing than to fundamentals. Reuven Glick and Andy Rose (1998) have a trade explanation which might account for the "geographic fundamentals" described in Subsection 3.3. above. Another hypothesis might be hegemony, in the sense of "winner takes all". For example, in the competition among potential locations for international investment, the result may be that some markets are crowded and others deserted⁴³.

Both geography and hegemony are at work when it comes to the economic policy autonomy of Hong Kong, relative to China during the attacks on the currency board. The fragility of the Asian recovery in 2000 also involves both geography and hegemony, to the extent that the recovery in Japan also remains fragile.

The turmoil in Russia in the Summer of 1998 had a strong domestic component which threatened to reverse the transition process. In spite of recent improvements in the credibility of policy (and in Russia's participation as equal in the G-7 discussions), the sequels of a debt moratorium and of currency inconvertibility, let alone a bank run, remain economically and politically hazardous.

Given the importance of contagion, useful inputs into crisis management come from investigating its regional patterns. Emphasis was given to the European exposure to multilateral surveillance mechanisms. This is not to say that peer pressure mechanisms are absent from international financial institutions. It simply reflects the widely acknowledged fact that there are often four or more European voices in the face of the United States and Japan. That being said, geography is sometimes cast in a trilateral fashion, which rather suggests an architecture based on three hegemonic blocs.

The informal apportionment of responses to financial crises emerging markets to the major mature democracy in the same continent suggests a pattern of contagion reminiscent of "the Monroe doctrine" and probably inadequate in today's global markets. There have been proposals to revive regional arrangements along the same lines, so as to facilitate a new financial architecture⁴⁴. Effects in Brazil, or in Latin America, are already seen as primarily calling for a US response. Instead, given Russia's status as former hegemon in Europe and parts of Asia, perceptions of crisis elicit stronger responses by the US and by the EU. Central

⁴³ This competition is also called a "beauty contest" in financial circles. Krugman (1994, p. 149) popularised the "superstar model" of the labour market along the same lines. He explains the fact that a larger number of people can bid for the services of the perceived best by "the reach and span of control of top lawyers, business executives and so on extended by modern telecommunications".

⁴⁴ This is especially visible in Ocampo 1999. See also Griffith-Jones and Ocampo 1999 and Kaul et al, 1999.

Europe is seen as a European problem but the Balkans war was of course led by NATO, rather than the EU or the UN⁴⁵.

Over the last decades, the financial discussions of the G-7 have remained the crucial conduit for US influence on European and Japanese policy formulations, quite aside from the OECD peer reviews. Moreover, the IMF has a well established role in backing these financial deliberations⁴⁶.

5.2. Crises as co-ordination devices

The financial crises caused hardship in individual countries but they also served as co-ordination devices and therefore did not threaten globalisation. The cases of withdrawal from world financial markets, most notably Malaysia, were isolated and temporary. In Spring 1998 Chile lowered its barriers to short term capital inflows (a tax called *encaje*) so as to revive the domestic stock market, set the tax rate to zero in the Autumn. Even a country endowed with a relatively well functioning administration found it difficult to keep an exchange control geared to a long term objective when the environment became turbulent.

The long term objective in Chile was an improvement in the composition of capital inflows towards long term instruments and especially foreign direct investment relative to short term flows which were considered more volatile. In any event, the rationale for the *encaje* was clear during the boom of the mid 1990s but it ceased to apply afterwards, reinforcing the idea that such measures work temporarily, and only if they are introduced in good times.

The output declines in several countries hit by financial crises were a definite cost against which some of the positive sides can be evaluated. In particular, improvements in banking supervision and even in corporate governance might not have occurred without a crisis. Nevertheless, there are many reforms in that area remaining to be done, and not only in emerging markets but in the OECD area as well.

The reflection of regional co-operation arrangements such as the EU is one of the issues in the debate where the geographic/hegemonic pattern of contagion matters. The role of Japan acquires special salience because it was seen as the major player in Southeast Asia, where the current crisis originated.

Grandiose reforms of the international system have been resisted by the G-7 and by its members in the EU but concrete steps have been taken because markets' resistance to change is lower in times of crisis⁴⁷. Both the Financial Stability Forum, created by the G-7 and currently chaired by the BIS, and the G-20 (including large emerging markets) examine closely the market behaviour of highly leveraged institutions, offshore centres and short-term capital flows⁴⁸.

These various entities have made recommendations on how to improve capital-flow statistics and prudential standards in both lending and borrowing countries aimed at stabilising financial markets. In parallel, progress in risk management techniques is required, as many

⁴⁵ See note 16 above.

⁴⁶ The internal governance of IMF implies that all actions are supported by shareholders.. There are 182 members countries and 24 members of board. The 8 largest countries have their own director (US=17 ½%), and the G-7 has a share of 85%.

⁴⁷ The list presented in Hausmann and Hiemenz (2000) includes global codes of conduct, such as the Basle Core Principles for Bank Supervision, the IMF Data Dissemination Standards and the OECD Principles of Corporate Governance. They are attempts to increase transparency so that the misvaluation of assets due to misinformation can be kept to a minimum.

⁴⁸ The members are South Africa, Saudi Arabia, Argentina, Australia, Brazil, China, Korea, India, Indonesia, Mexico, Russia, Turkey. There are eight members of OECD (or of its Development Centre), Russia (G-8), three Asian giants and powers from Africa and the Gulf. The G-20 met for the first time at ministerial level at end 1999 in Berlin. The managing director of the IMF and the president of the World Bank participate fully in the sessions. See note 4 above.

global players have not yet exploited the potential of their own auditing services⁴⁹. If this is true of global players, central banks and regulators might be even less prepared to carry out let alone being prepared to carry out mandatory *value at risk* reviews as called for by the Basle committee of the BIS⁵⁰.

Following widespread agreement between academics and market organisations such as the group of thirty that some improvements in orderly workouts were desirable and easy to achieve, the IMF has been authorised to lend in arrears⁵¹. Nevertheless, the traditional difference remains between national action on private debt and international action on sovereign debt. In the absence of international enforcement, the "pre-nuptial agreement problem" makes these improvements less likely to be accepted outside of a broader set of changes in the international system. An IMF Contingent Credit Facility for pre-defined liquidity support has also been implemented and the debt reduction by private creditors that the Paris Club requires to grant public concessions on debt principal and debt service payments has been broadened.

In short, the crises allowed bank restructuring to take place on a much broader scale than otherwise and debt structures are now in better shape than if countries had postponed reforms. As a consequence, there may be a lesson about exchange controls that echoes the one on the escalation of tariff to non-tariff barriers during the inter-war period.

Liberalisation and globalisation must be better managed to prevent protectionist pressures from taking over. Managing the emerging markets crisis means therefore avoiding a relapse of protectionism while fostering reform in the international system to allow for a more effective regional and global response to threats of contagion of national crises.

6. Conclusion

Can devaluations and exchange controls be co-ordinated at the regional or global level, to lessen their beggar thy neighbour character? Probably not without co-ordination mechanisms among monetary and fiscal authorities like the ones found in the EU. How precisely the mechanisms may apply to CEFTA, ASEAN or Mercosul remains to be thoroughly investigated. The claim of this paper was that there does not seem to be a better perspective than the one defended here.

Over and above the parallels between the 97-99 emerging markets crisis and the Mexican devaluation of December 1994, the lessons from the crises in the ERM may thus be helpful in designing a new international financial architecture. In effect, the crises were overcome by the ERM code of conduct. With the experience gathered during the first year of the Euro, a new code of conduct may be developing, which acknowledges the importance of international banking supervision, including better risk management along the lines proposed by the BIS. Avoiding contagion by reverting into trade and financial protectionism could well prove as ultimately futile a beggar-thy-neighbour policy now as it was in the early 1930s.

A significant amount of tax resources has been devoted to crisis resolution, not just through higher transfers to the international financial institutions, but also through loan-loss reserves by banks which lower their taxable profits. Bailing in the private sector into higher burden sharing is thus hoped to reduce the degree of moral hazard in global financial markets implied by public bailouts. On the other hand, the modifications to the international financial

⁴⁹ The financial press states for example that only Chase Manhattan Bank took notice of the results of the stress tests carried out in connection with the August 1998 Russian crisis.

⁵⁰ Dornbusch (1998b) suggests mandatory value at risk reviews as called for by the Basle committee of the BIS. See also Blejer and Schumacher (1999) and Braz (2000). While developments in the technology may allow this, the concepts are still foreign to many financial institutions and the methods are not without dangers, as described in Reisen (2000).

⁵¹ See Goldstein (1999) and Eichengreen (1999).

architecture might restrain private flows to the emerging markets, hence making these flows less liquid and more volatile.

The potential costs, stability and magnitude of private capital flows to developing countries are an important criterion to assess current proposals to reform the functioning of the international financial system. In this regard, there have been proposals for regional fora, which could help the IMF improve its performance when exchange rate and banking issues are difficult to disentangle, as is more and more frequently the case. While this is certainly true, institutions of global governance have been essential in preventing the 1997/99 financial crises in emerging markets from becoming a 1930's style global depression and they continue to be needed in the future.

Suspensions about "fortress Europe", even limited to the continental EU, are no longer so fashionable. This is why the role of the IMF, but also of OECD and BIS, become essential to the usefulness of a "Eurocentric" architecture based on peer pressure.

Systems like the ERM relied on shared economic and societal values. They may be difficult to adapt to the variety of emerging markets in the current world system, but they are certainly required when regional arrangements are spreading from trade to investment, as is the case, for different reasons, with CEFTA, ASEAN and Mercosul.

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Foreign banks in Chile: relevant indicators

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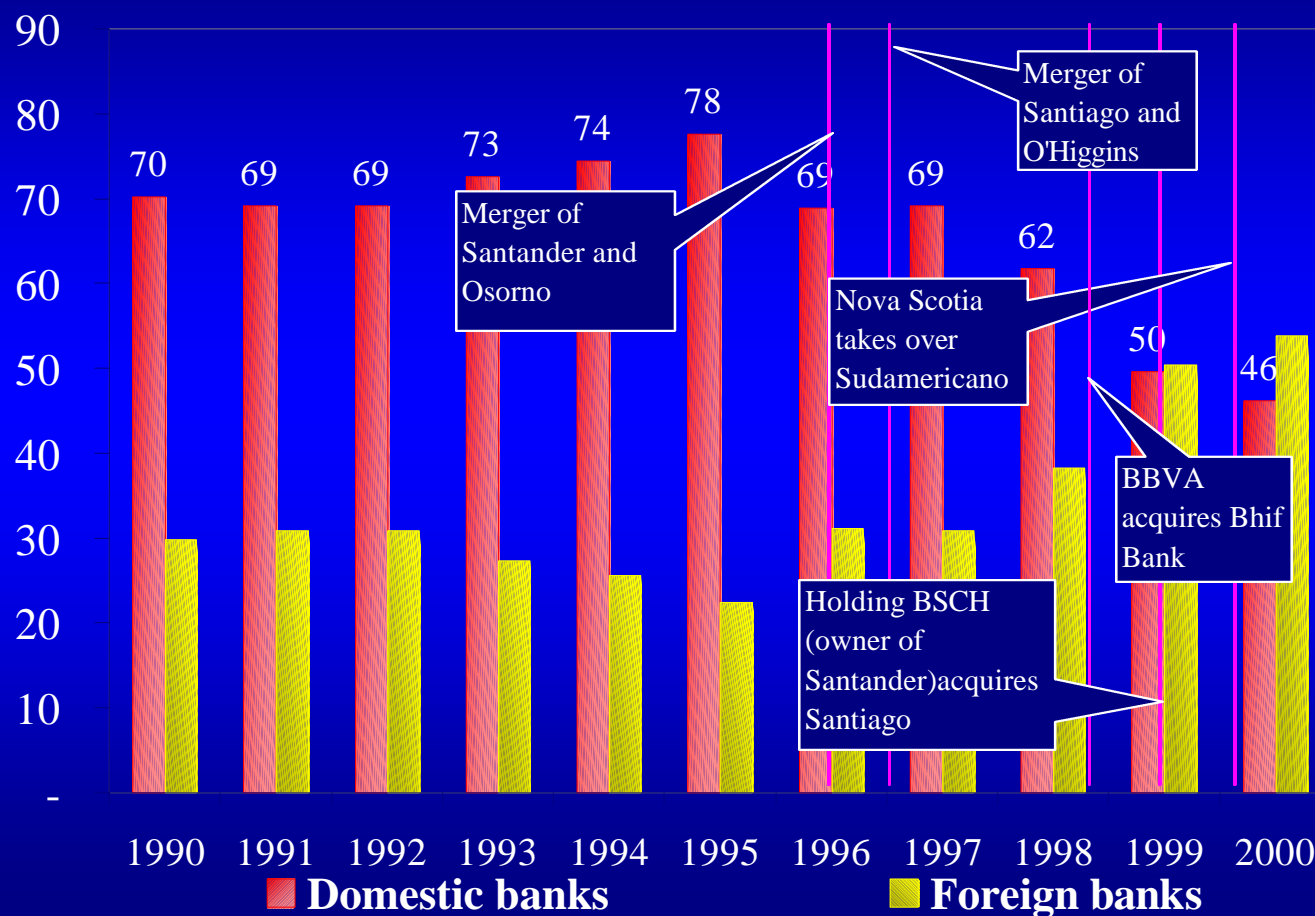
Central Bank of Chile

August 2000

Foreign bank participation in the domestic market

Foreign ownership of domestic banks raised considerably after the acquisition of Osorno and Santiago banks by the Spanish Santander.

Share of domestic and foreign banks
(as a percentage of Tier I capital)



Total Claims by Category of Commercial Banks

(millions of Chilean pesos)

	Annual			Semi-Annual				
	Dic-94	Dic-95	Dic-96	Dic-97	Jun-98	Dic-98	Jun-99	Dic-99
Total Claims								
Foreign Subs Reporting	1,599,568	2,085,286	3,634,340	4,247,171	4,601,718	5,758,066	10,052,113	11,497,741
Foreign Subs Non Reporting	81,557	81,982	88,395	104,950	111,487	98,565	89,569	67,017
Foreign Non Subs Reporting	1,830,891	2,406,586	3,231,004	4,304,201	5,039,635	5,488,152	6,717,109	6,942,896
Domestically Owned State Banks	1,680,335	1,964,127	2,196,232	2,587,040	2,842,415	3,076,826	3,059,481	3,241,684
Domestically Owned Private Banks	8,404,071	11,062,953	12,074,378	14,647,962	15,521,974	14,703,398	11,009,651	10,541,854
	Annual			Semi-Annual				
	Dic-94	Dic-95	Dic-96	Dic-97	Jun-98	Dic-98	Jun-99	Dic-99
Broad Deposits								
Foreign Subs Reporting	1,925,199	2,245,384	3,612,872	4,026,783	4,852,027	5,764,134	10,244,376	10,969,339
Foreign Subs Non Reporting	58,085	52,506	58,706	67,317	88,816	76,525	61,712	35,063
Domestically Owned State Banks	1,806,116	2,186,223	2,375,464	2,706,124	2,841,561	2,946,011	2,962,007	3,248,878
Domestically Owned Private Banks	7,128,163	9,508,586	10,520,543	11,623,553	13,750,116	12,484,001	10,376,161	9,091,130
Narrow Deposits								
Foreign Subs Reporting and Non Rep.	1,460,829	1,741,843	2,943,794	3,029,415	4,074,668	4,824,050	9,187,450	9,754,202

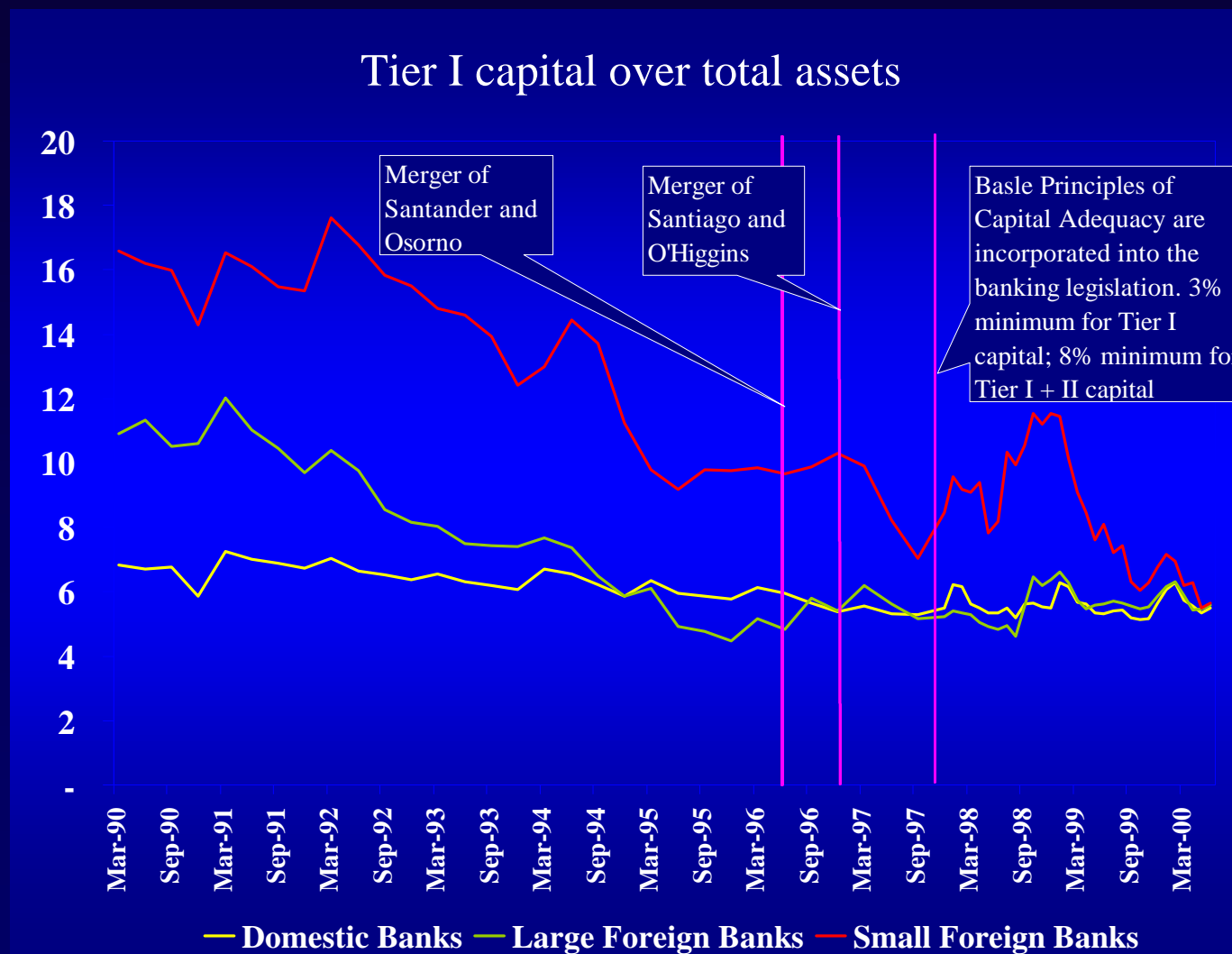
Measures of Foreign Penetration

	Annual			Semi-Annual				
(Percentage)	Dic-94	Dic-95	Dic-96	Dic-97	Jun-98	Dic-98	Jun-99	Dic-99
Broad Loan	25.8%	26.0%	32.8%	33.4%	34.7%	39.0%	54.5%	57.3%
Narrow Loan	14.3%	14.3%	20.7%	20.2%	20.4%	24.8%	41.9%	45.6%
Broad Deposit	18.2%	16.4%	22.2%	22.2%	22.9%	27.5%	43.6%	47.1%
Narrow Deposit	13.4%	12.4%	17.8%	16.4%	18.9%	22.7%	38.9%	41.8%

CAMEL Indicators of the Chilean Banking System

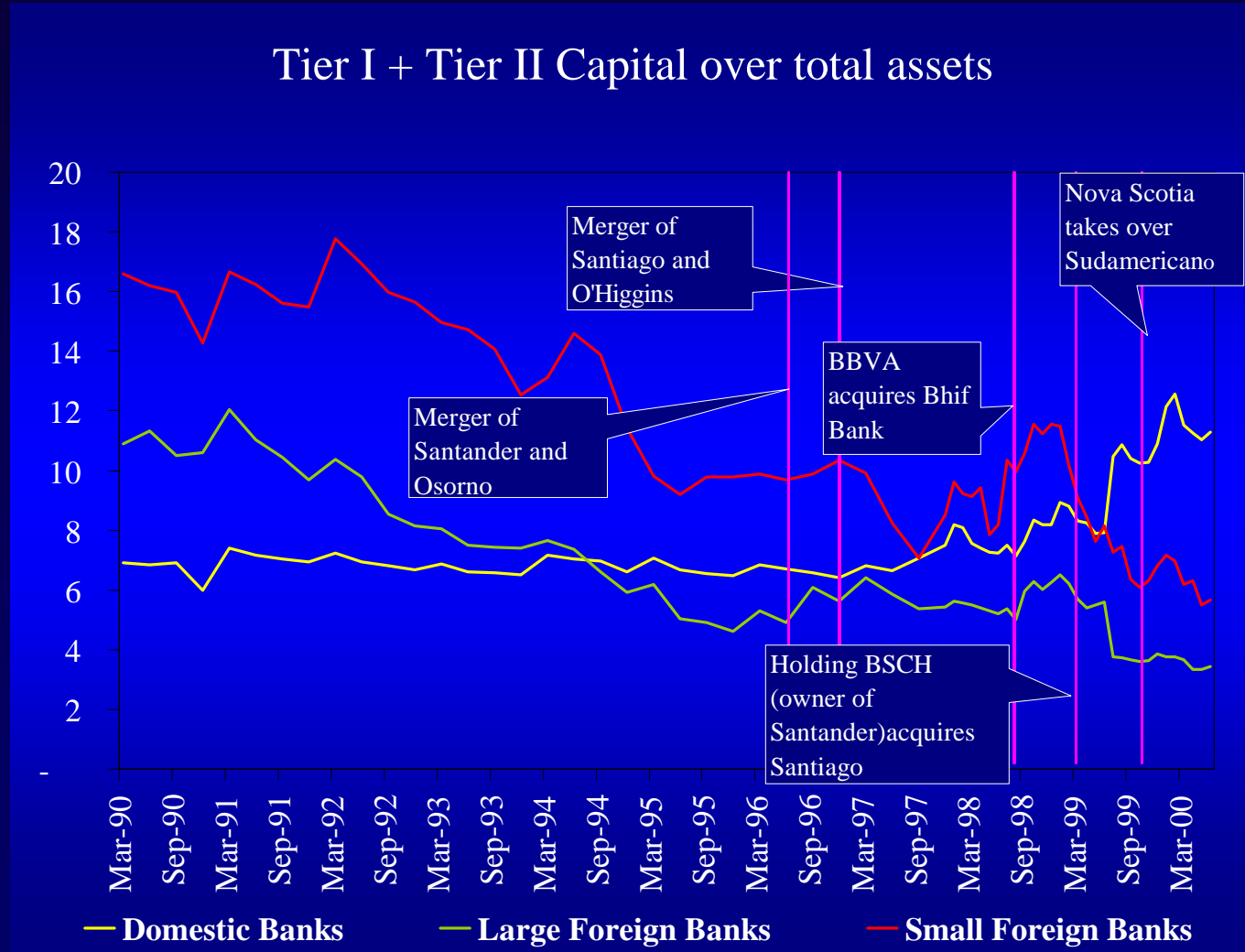
Capital

Domestic banks had consistently shown a stable capital buffer of around 6% of total assets.



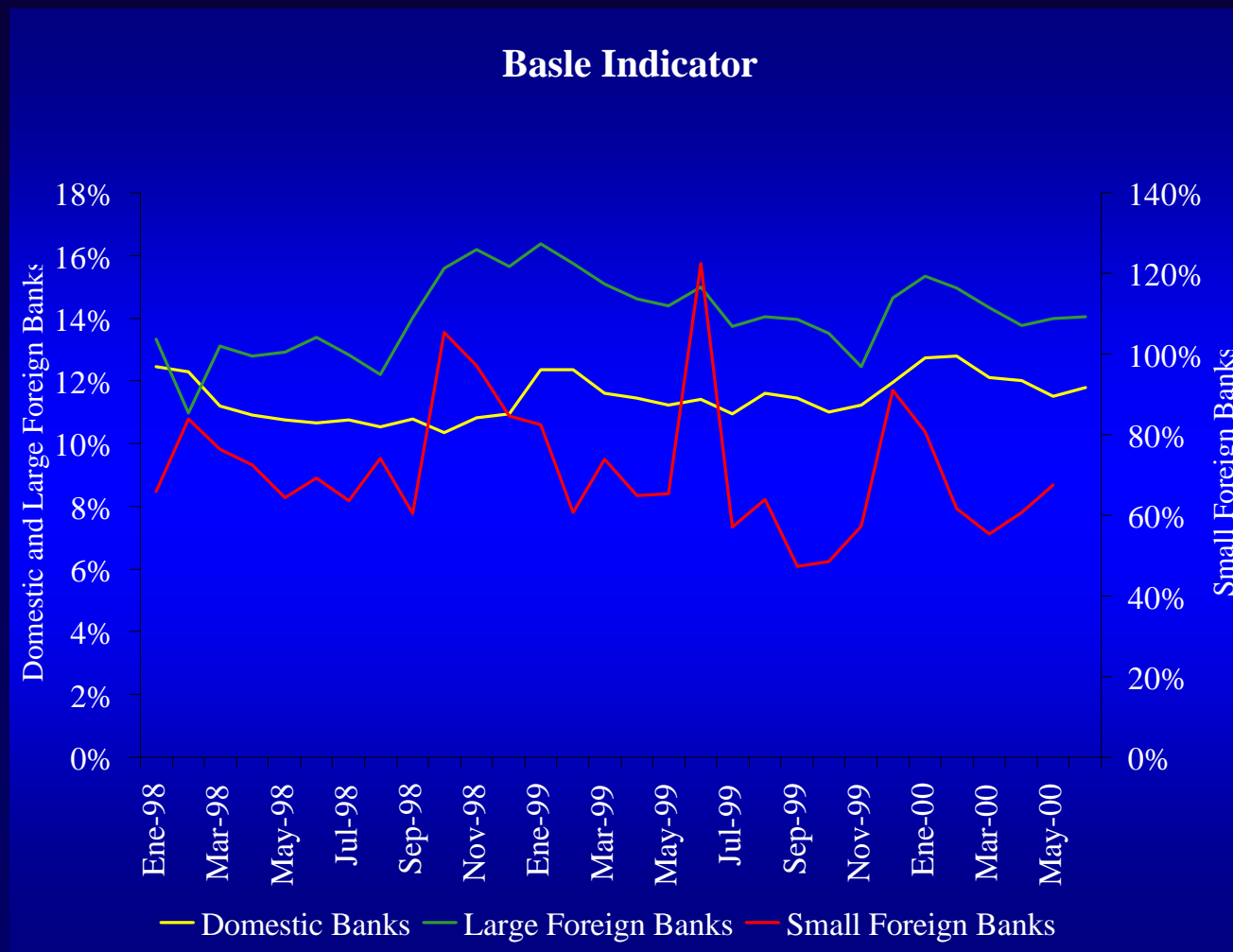
Another capital indicator...

The increase in tier I + II capital of domestic banks is explained by the issuance of subordinated bonds.



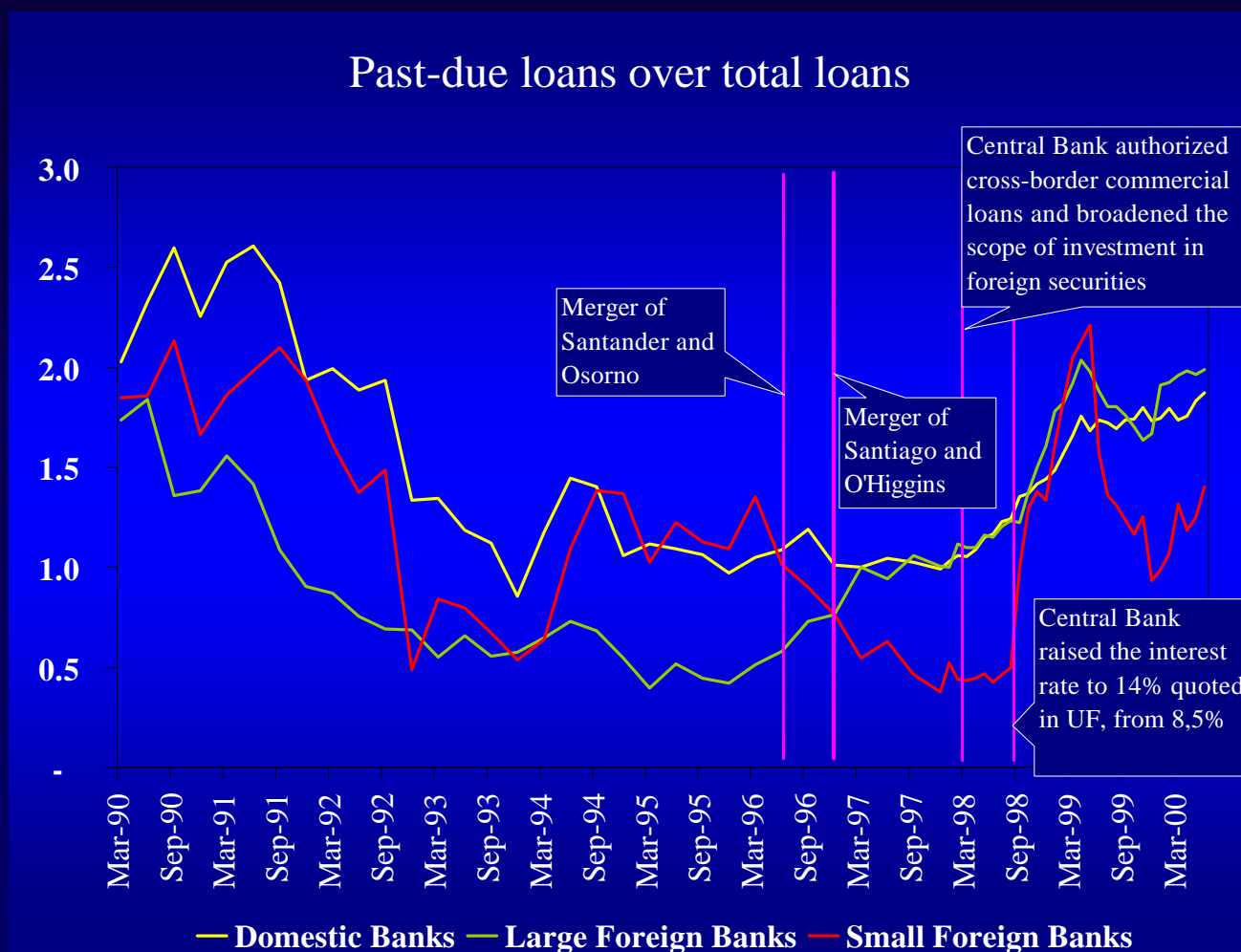
Basle Capital Adequacy

The Basle capital adequacy ratio reveals a better description of the situation of foreign banks, which have a great percentage of riskless assets in their portfolio.



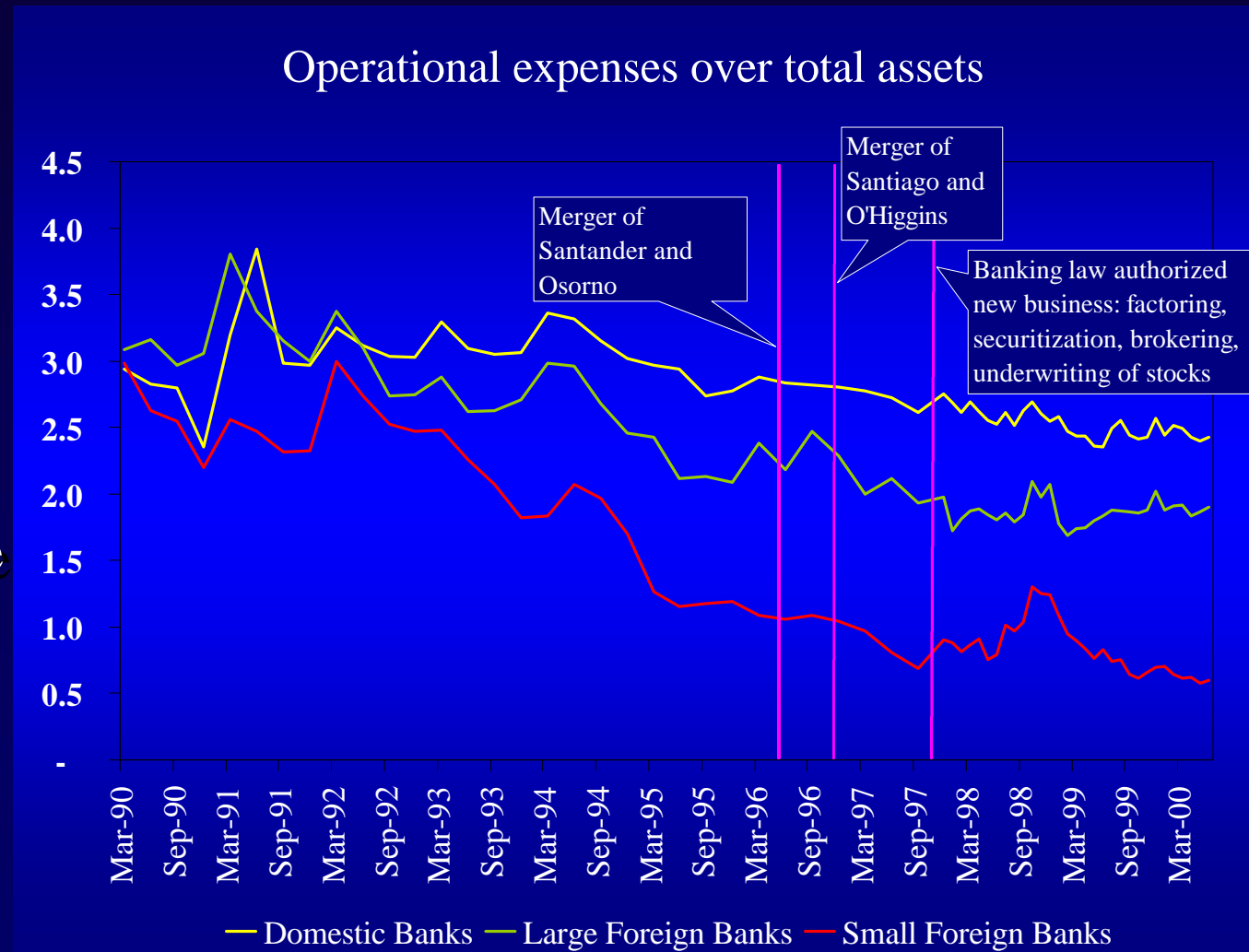
Assets

Past-due loans are low compared to historical levels in Chile and in the southern cone. Large foreign banks, after Santander entrance, had become more “domestic” in terms of loan quality. Small foreign banks are not focused primarily in the commercial loan segment.



Management

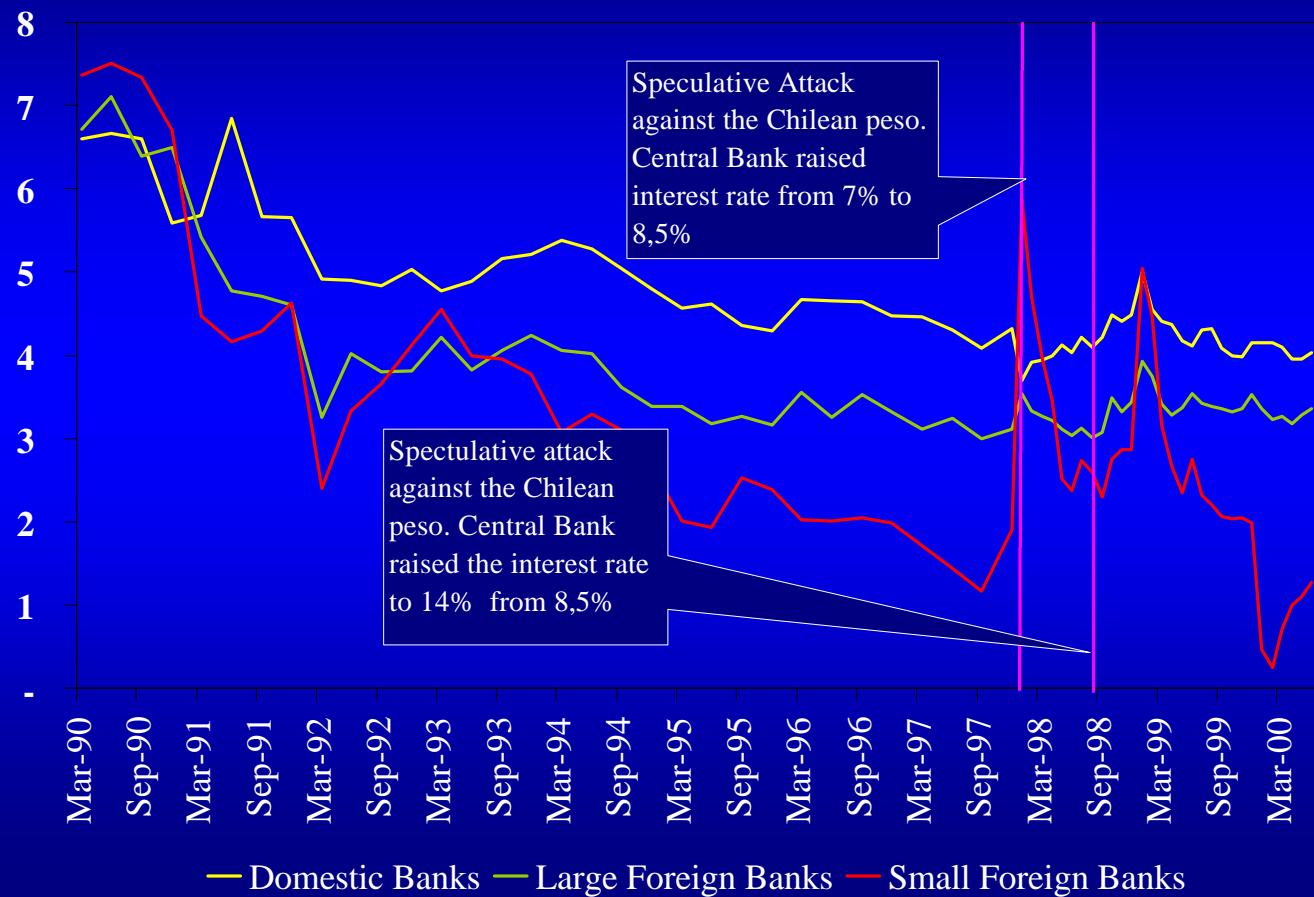
Chilean banks (both domestic and foreign owned) have become more efficient, due to increased competition. The narrow scope of operations of SFB explains the low level of operational expenses.



Earnings

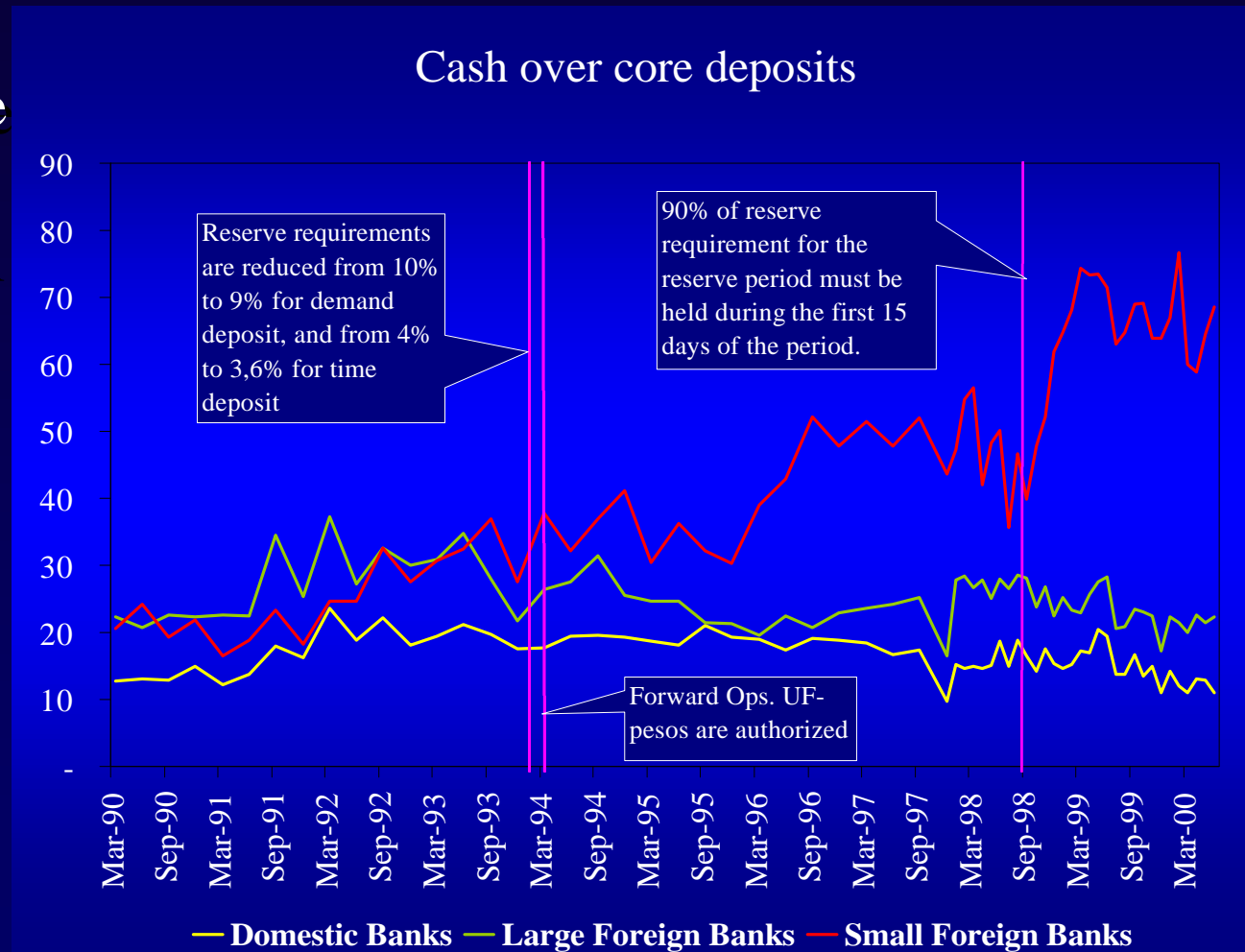
Profitability of the Chilean banking system has decreased steadily over the decade. This is consistent with the entrance of more aggressive foreign players and the reduction of inflation.

Operational Margin over total assets



Liquidity

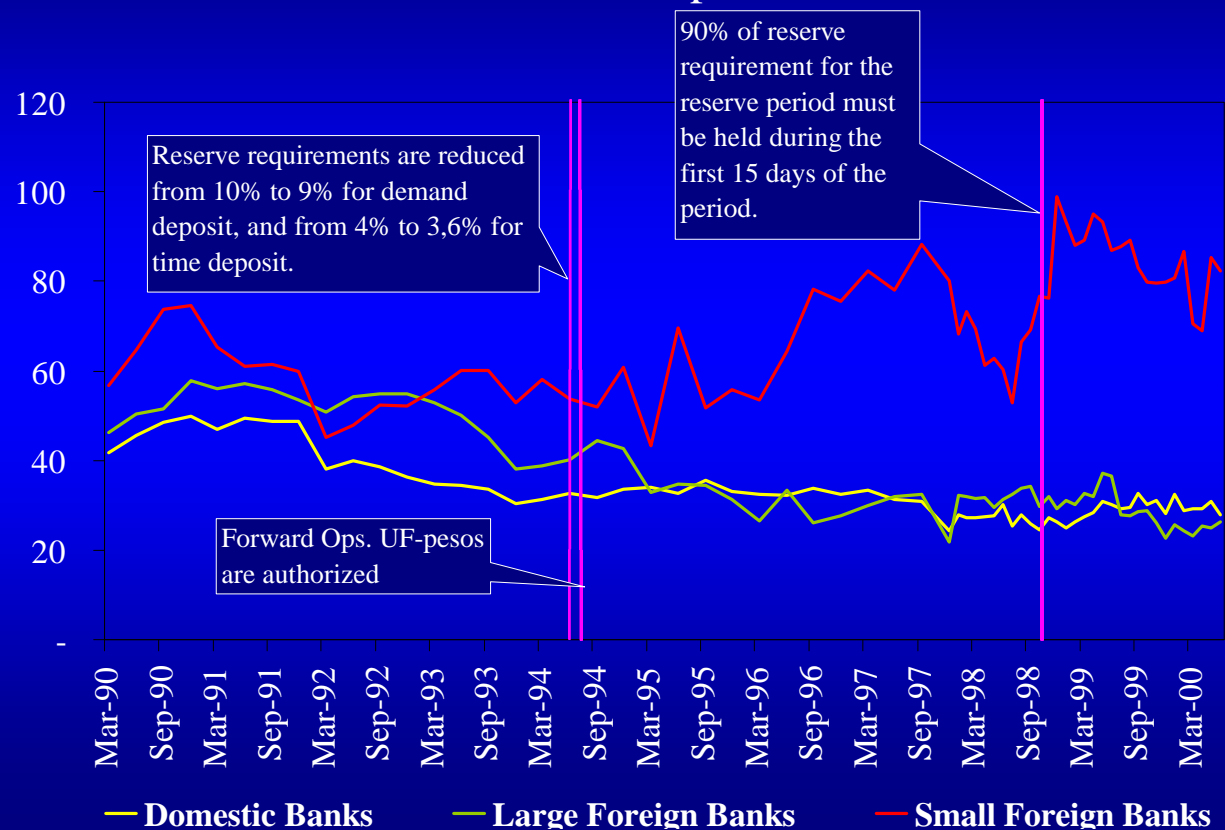
Liquidity measures reflect primarily the different business orientation of small foreign banks against the other two groups. The former group does basically treasury operations, trading of foreign currency and Central Bank bonds.



Another liquidity indicator

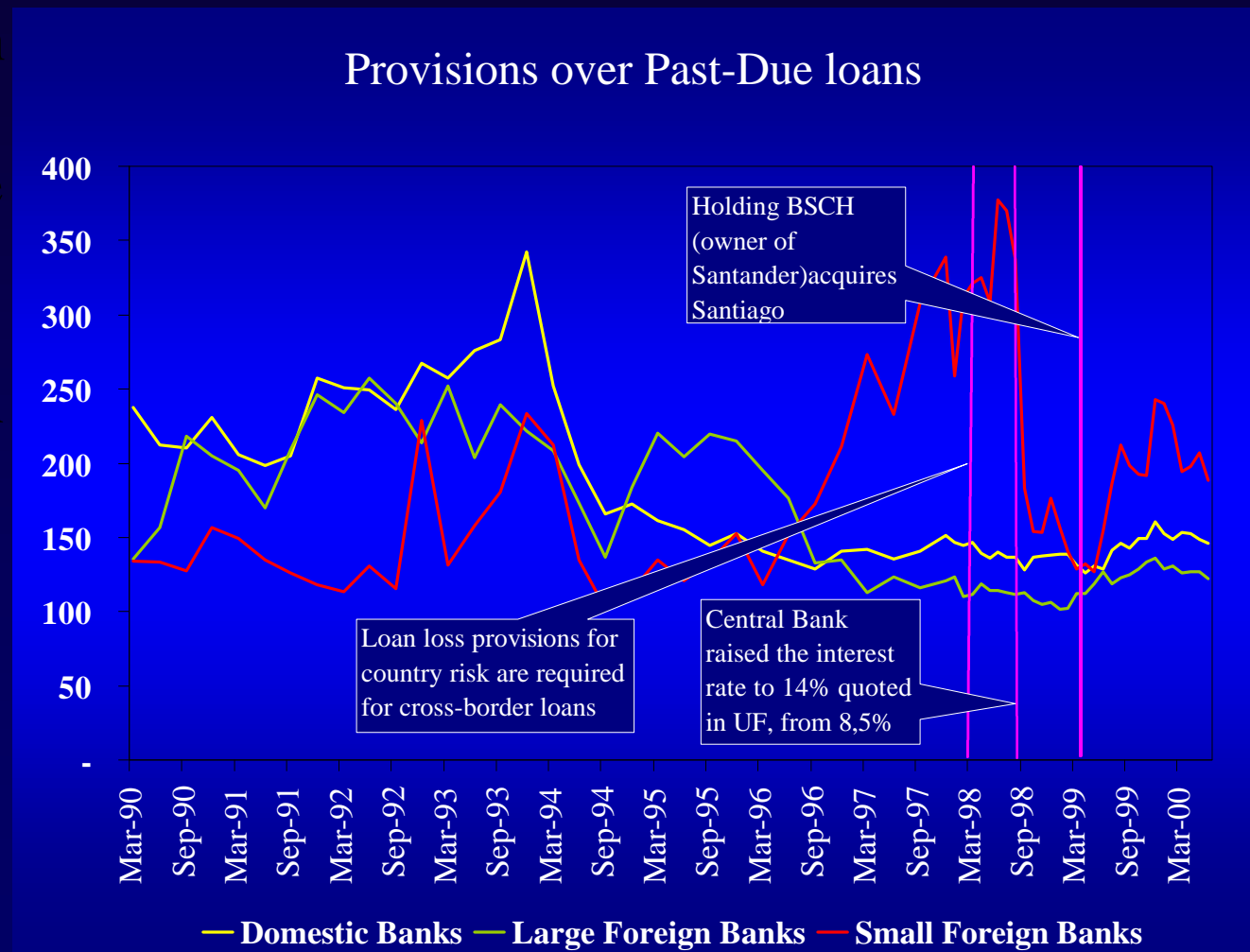
The addition of central bank papers does not significantly alter the dynamic pattern of liquidity over time. However, small foreign banks do show higher liquidity over the entire period.

Cash + Central Bank papers with secondary market over core deposits



An indirect measure of solvency

This ratio has been very stable for domestic and large foreign banks, suggesting that the recent downturn in economic activity did not harm the solvency of these banks.





Banco Central de la República Argentina

Jornadas Monetarias y Bancarias, 2000

Andrew Powell

Medición de riesgo crediticio, requisitos de capital y provisiones:
aplicación de un modelo de portafolio a la central de deudores

24 de Agosto de 2000

Medición de riesgo crediticio,
requisitos de capital y
previsiones: Aplicación de un
modelo de portafolio a la Central
de Deudores

Andrew Powell

Economista Jefe

Banco Central de la República Argentina

24 de agosto de 2000

Plan de la presentación

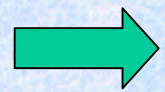
- Modelos de portafolio para medir riesgo crediticio y la banca central.
- Cómo se aplicó CreditRisk+ en el Banco Central de la República Argentina.
- Algunos resultados preliminares.
- Conclusiones

Modelos de portafolio para medir riesgo crediticio y la banca central

- Gran interés en estos modelos por varios motivos:
 - Entender los “modelos internos” de la banca privada,
 - mejorar la medición de riesgo; herramienta de la supervisión,
 - adecuar las regulaciones de provisionamiento y capital para reflejar mejor los riesgos.

Factores importantes en la elección de un modelo

- Más interés en riesgo, menos en “pricing”.
- Simplicidad.
- Habilidad de testear los supuestos y hacer “backtesting”.
- Disponibilidad y transparencia.

 CreditRisk+ tendría ventajas de acuerdo a estos criterios

Cómo se aplicó CreditRisk+ en el Banco Central

- Fuente de datos: la Central de Deudores
 - Cubre todos los préstamos > \$50.
 - 8 millones de registros por mes.
 - Para cada deudor, los datos básicos incluyen identidad, monto total de préstamos en cada banco, garantías, calificación siguiendo las normas pertinentes y actividad económica.

Cómo se aplicó CreditRisk+ en el Banco Central

- Se usó un sector.
- Se identificó la situación 5 como “default”.
- Se estimó un modelo de scoring para tener la probabilidad de default para cada préstamo.
- Se incluyeron supuestos sobre la tasa de recupero.
- Se usaron distintos supuestos para la volatilidad de la tasa de default.

El modelo de scoring. Un ordered probit

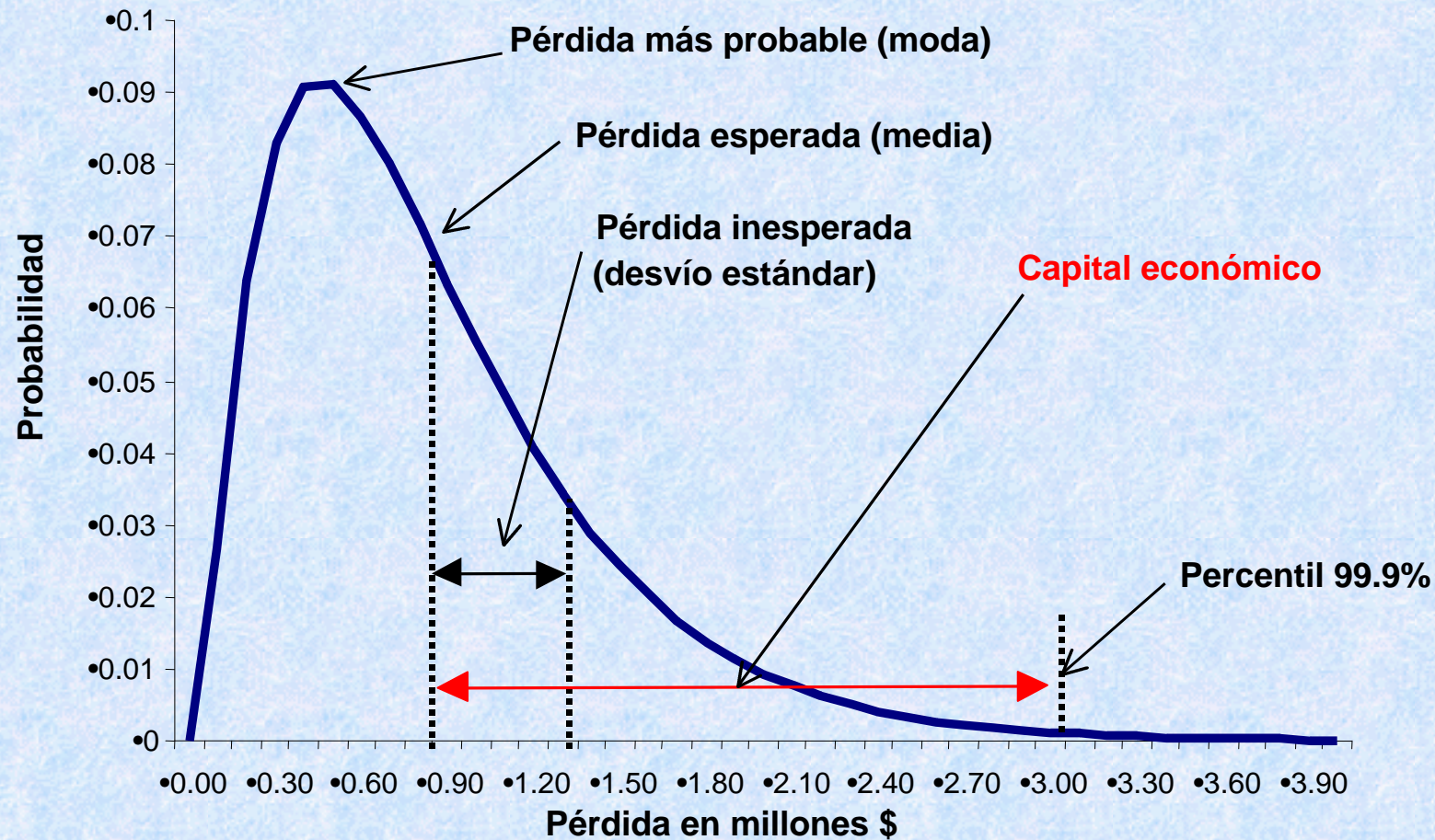
- Variable explicada: situación final.
- Variables explicativas:
 - Monto de deuda (log y cubo de su log).
 - Porcentaje con garantía
 - Situación inicial
 - Actividad económica principal
 - CAMEL de la entidad que otorga el préstamo.
- Datos: 2.7 millones de deudores
- Horizonte: 12 meses
- Todos los coeficientes son significativos (con señales “correctas” al 99%).

Resultados del modelo de scoring

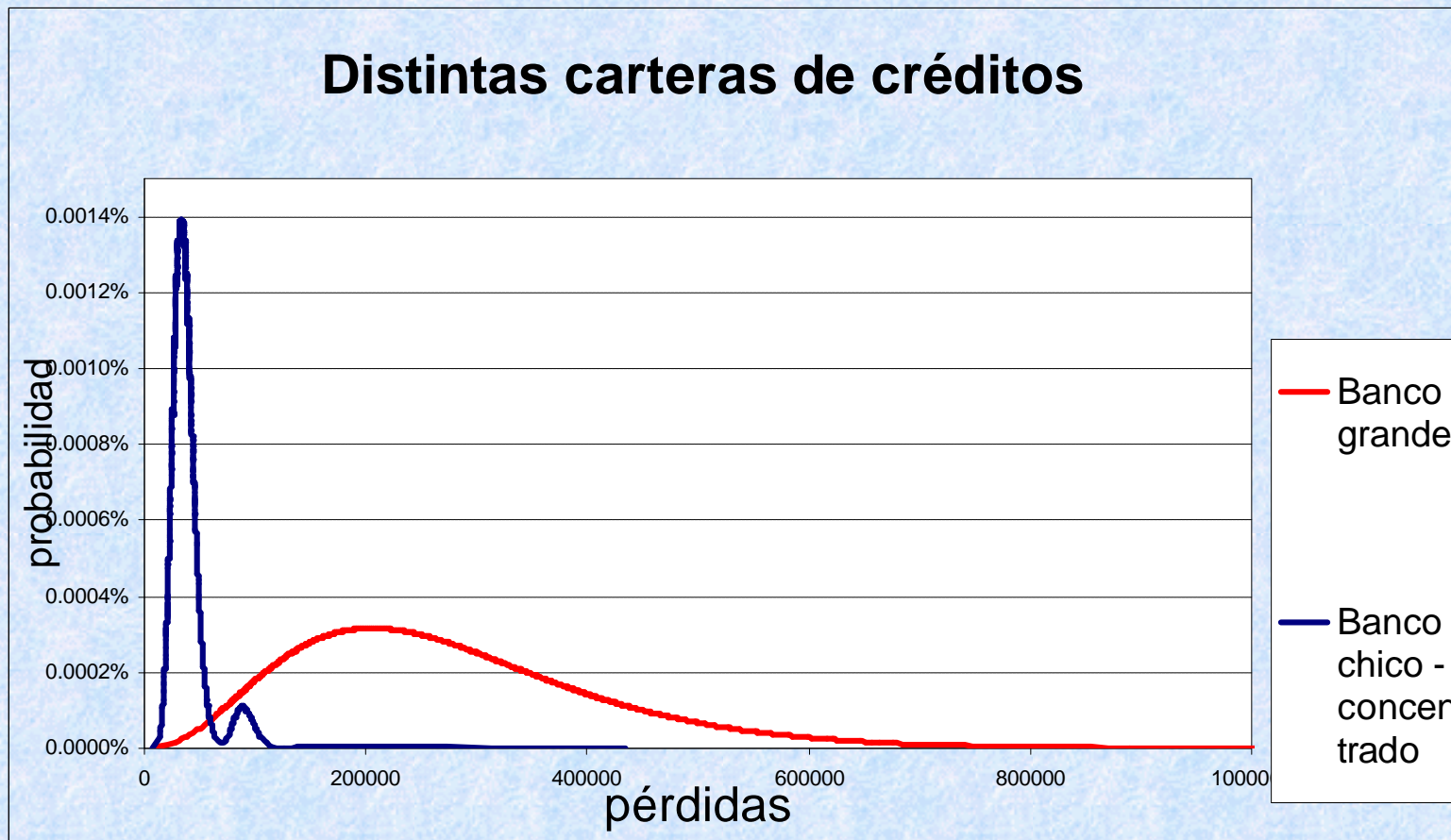
Situación	Promedio de prob. de default	Pérdida esperada
1	3.5%	2.8%
2	20.4%	15.0%
3	36.2%	26.8%
4	55.3%	39.8%
5	77.1%	63.2%

Supuestos: Se recupera el 50% de la garantía.

La distribución de pérdidas

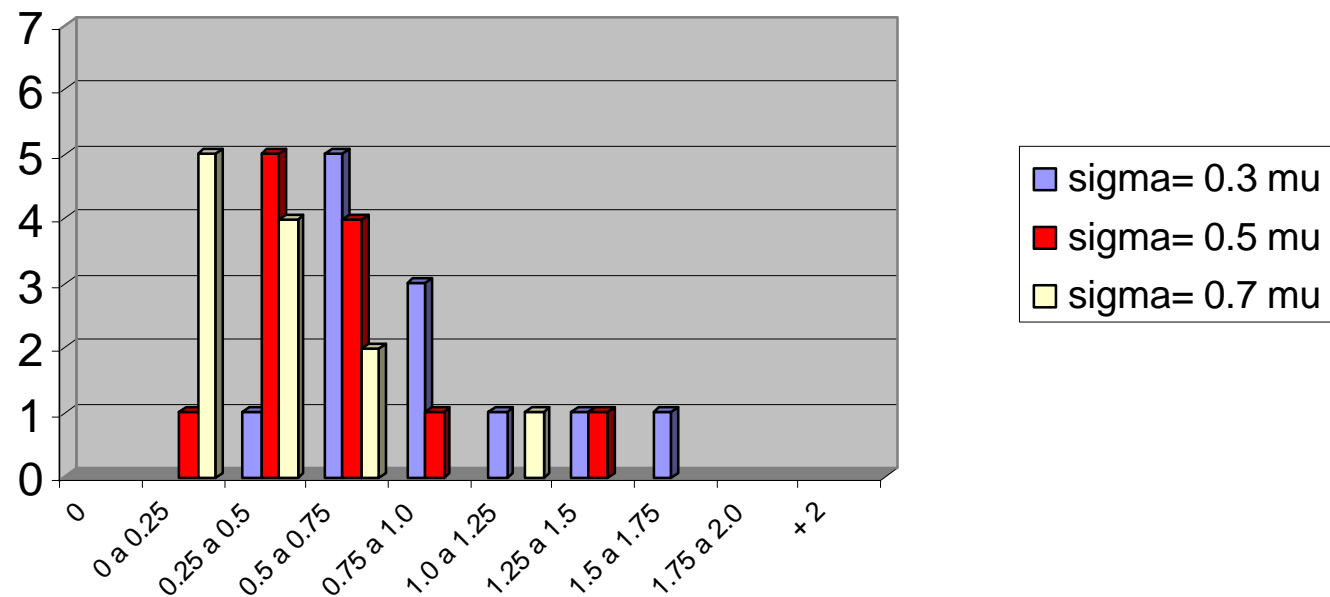


Resultados preliminares



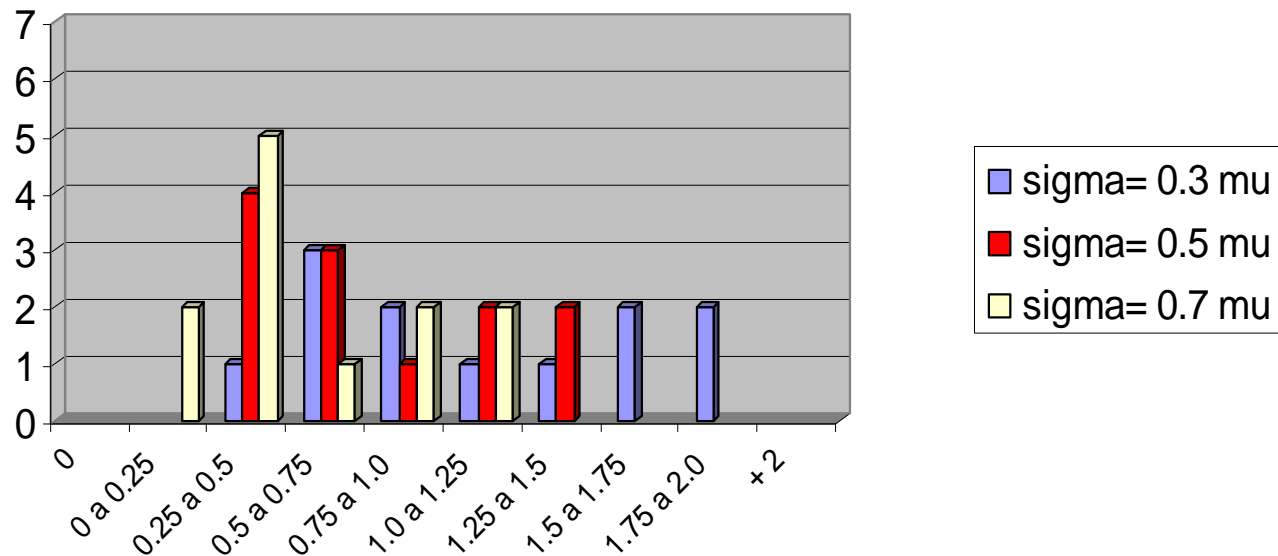
Resultados preliminares

Capital regulatorio / capital del modelo



Resultados preliminares

Capital + provisiones regulatorios / capital + provisiones del modelo



Conclusiones

- Exitosa aplicación de un modelo de portafolio para medir riesgo crediticio.
- Se puede analizar banco por banco o el sistema.
- Se puede hacer backtesting, siguiendo la tendencia internacional hacia la aplicación de estos modelos.
- Los resultados preliminares indican que con $\sigma = 0.3$ ó $0.5 * \mu$ los requisitos son apropiados en promedio.
- La sensibilidad de los resultados al supuesto del sigma (y a otros supuestos) es significativa.



Banco Central de la República Argentina

Jornadas Monetarias y Bancarias, 2000

Tom Wilde

Credit Risk

24 de Agosto de 2000

CREDITRISK⁺

Tom Wilde

Director, Credit Suisse First Boston

Jornadas Bancarias y Monetarias

Banco Central de la República Argentina

Buenos Aires, 24 August 2000

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Using CREDITRISK⁺

How CREDITRISK⁺ works

Sources of data for CREDITRISK⁺

Introduction to CREDITRISK⁺

CREDITRISK⁺: Introduction

What is CREDITRISK⁺ ?

- CREDITRISK⁺ is a credit **portfolio** model
- it quantifies levels of **aggregate** loss across a portfolio of debt
- other portfolio models are CreditMetrics™ and KMV PortfolioManager™

What is CREDITRISK⁺ useful for?

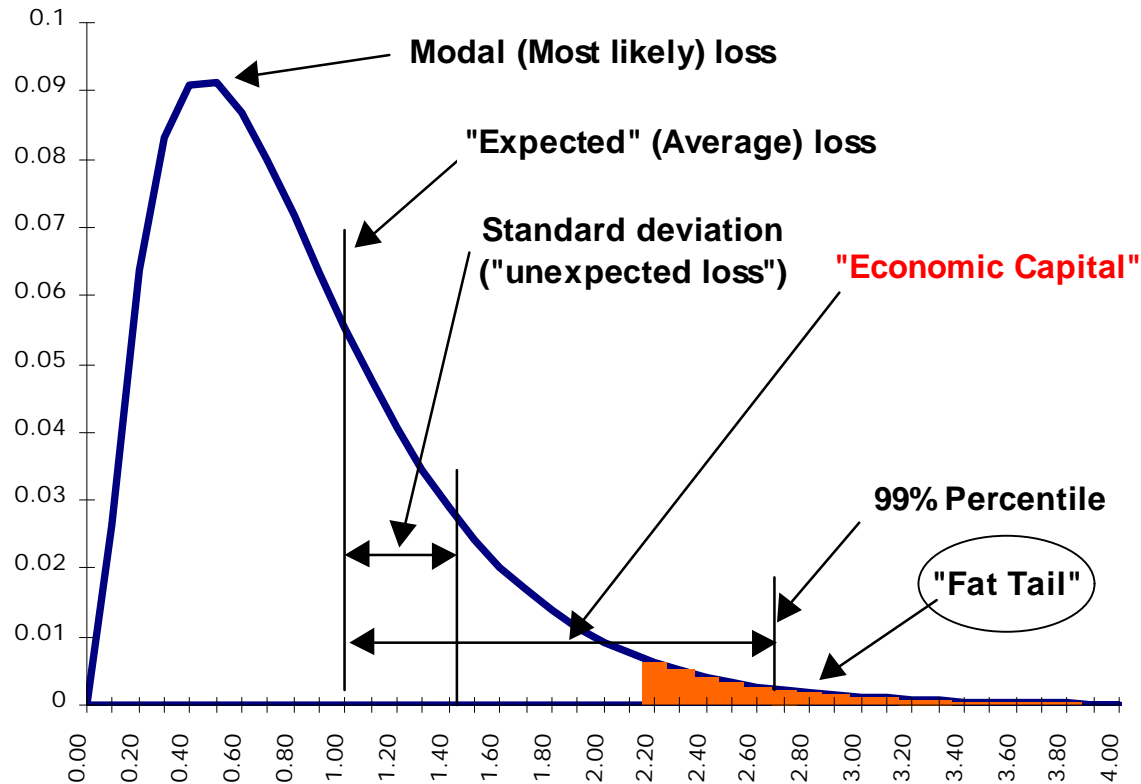
- calculating provisions and economic capital required for a portfolio of loans
- as a measurement tool to assist portfolio management
- capturing risk concentrations and inefficient use of capital at the portfolio level

What is CREDITRISK⁺ *not* useful for?

- It is not a model for assessing individual counterparty credit quality
- Therefore, it is not a valid model for assigning credit ratings
- It is not useful for pricing individual loans or other credit transactions

CREDITRISK⁺ is useful in conjunction with other credit models and methods

CREDITRISK⁺, fat tails and loss measures



"Fat Tail"

- the part of the distribution that deals with probabilities of very large losses
- often the subject of intense interest
- the tails of many distributions in finance are "fat", e.g. FX rates, equity index prices, and credit losses (as here)
- the 99% percentile measures tail fatness (to some extent)

- Any **portfolio model** is a method for calculating the portfolio loss distribution.
- **CREDITRISK⁺** is an example of a portfolio model
- The other measures (most likely loss, unexpected loss, economic capital) all follow

Using CREDITRISK⁺

Using CREDITRISK⁺

Example: Economic Capital

- Economic Capital = Capital “really” required to support a business
- called “economic” capital to distinguish from regulatory capital
- value depends on the risk aversion and time horizon of the investor

Standard definition:

Economic Capital = 99% worst loss in value of the portfolio over 1 year

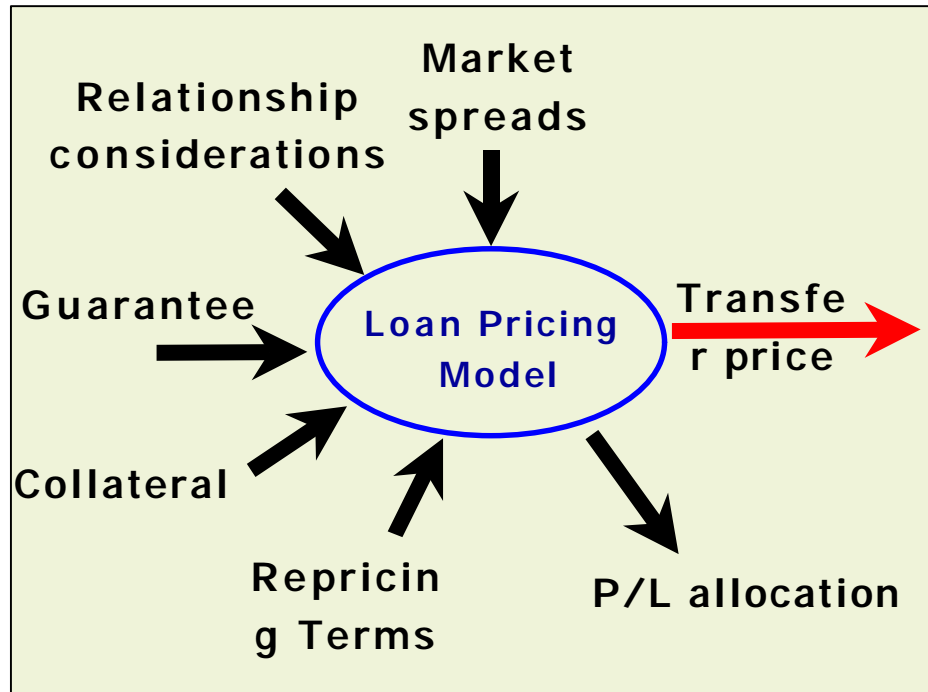
Calculation of economic capital

- use a model to work out the distribution of losses
- E.g. CREDITRISK⁺

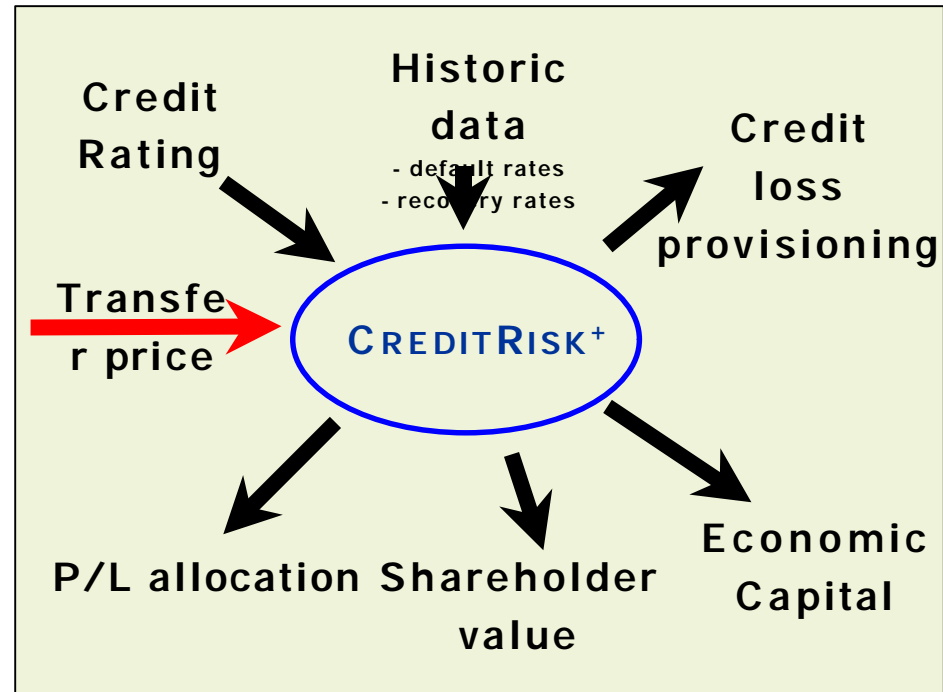
Using CREDITRISK⁺

Example: Lending origination and portfolio management

Lending Origination



Portfolio Management



How CREDITRISK⁺ works

How CREDITRISK⁺ works

In CREDITRISK⁺, we think of total risk as having two components:

$$\text{Risk} = \text{Concentration risk} + \text{Economic risk}$$

Concentration risk

- risk of “bad luck” / big individual losses
- *due to* the different sizes of particular exposures
- *bad when* large single exposures, or a very small number of exposures in the portfolio
- also known as “unsystematic risk”

CREDITRISK⁺ models concentration risk explicitly, using the severity

distribution Economic risk

- risk of economic changes
- *due to* the common dependence of all companies on economic environment
- *bad when* undiversified mix of countries / industries in the portfolio
- also known as “systematic risk”

CREDITRISK⁺ models economic risk explicitly, via default rate volatility

CREDITRISK⁺ and concentration risk

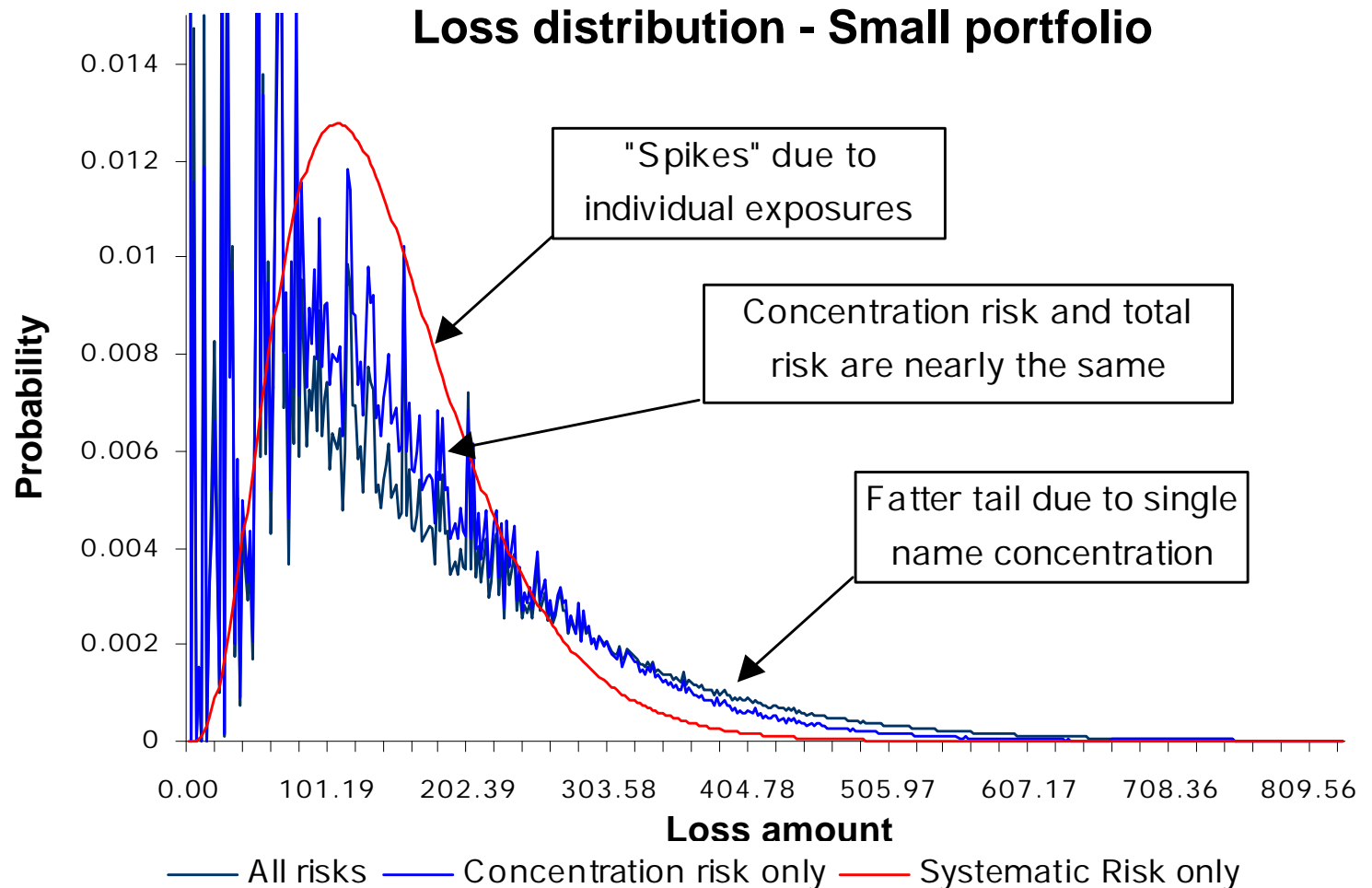
Concentration risk

Important in:

- small portfolio
- portfolio with large individual exposures

Example:

- portfolio of 25 obligors
- concentration risk is almost the whole risk
- systematic risk is not significant



CREDITRISK⁺ and economic risk

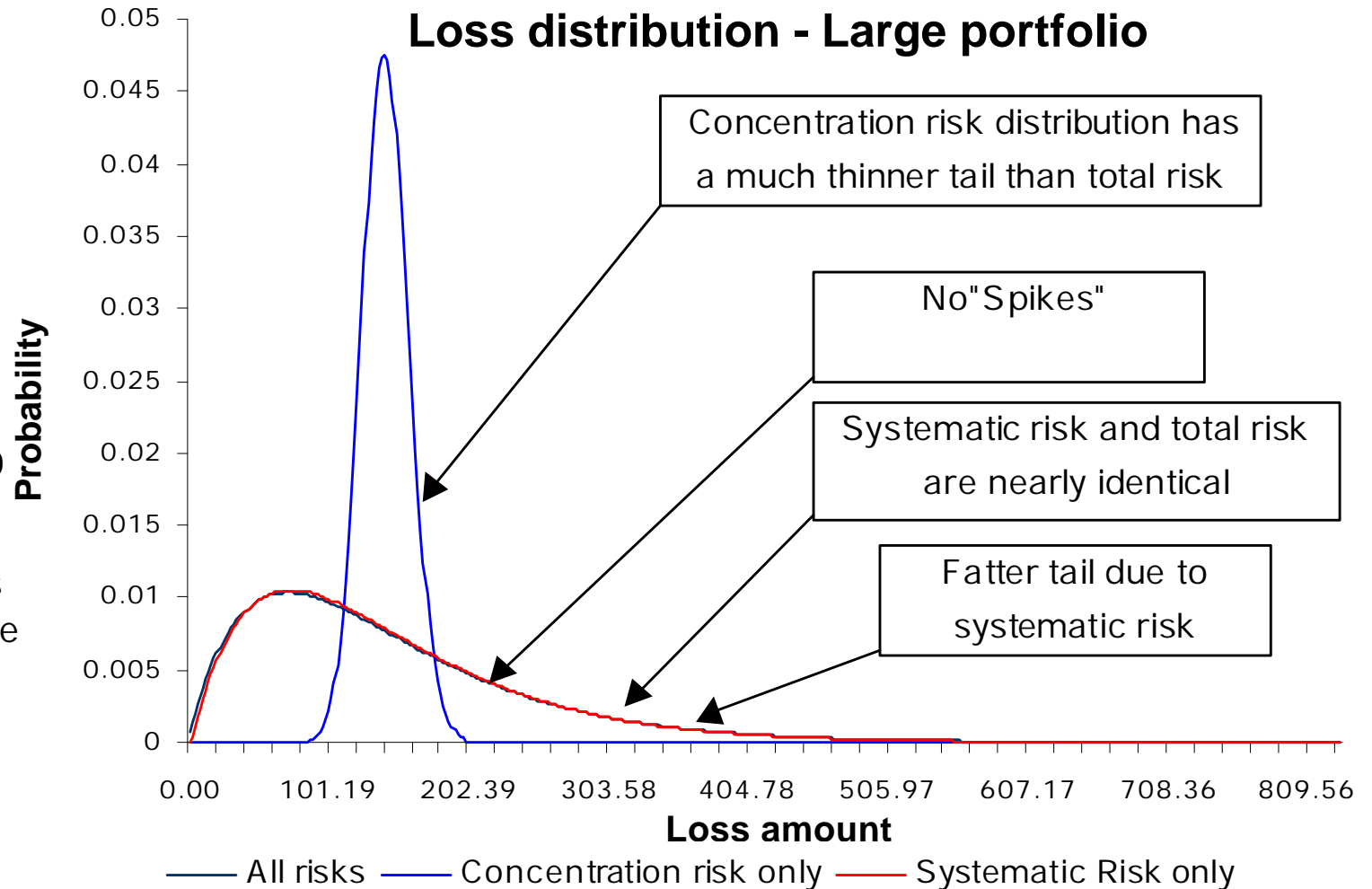
Economic risk

Important in:

- large portfolio
- portfolio with many smaller exposures

Example:

- portfolio of 1200 obligors
- economic risk is almost the whole risk
- concentration risk is not significant



How CREDITRISK⁺ combines the risks

Analytic calculation - no simulation

- one way to combine the risks is to use Monte- Carlo simulation
- however, CREDITRISK⁺ combines the risks analytically, without Monte - Carlo

One way to understand the combination is via the volatility σ^2 of losses

- in terms of volatility, there is a simple summation of risks:

$$S^2 = \underset{\substack{\text{Economic} \\ \text{risk}}} \downarrow S_{\text{Systematic}}^2 + \underset{\substack{\text{Concentration} \\ \text{risk}}} \downarrow S_{\text{Unsystematic}}^2$$

More technically challenging: the full combination method

- uses a mathematical concept known as the *probability generating function* ("PGF")
- the combination is exact and keeps all the information about concentration and economic risks

$$PGF = \int_{\substack{\text{States of the} \\ \text{economy}}} \prod_{\substack{\text{Possible} \\ \text{default rates}}} e^{F(\text{Exposure distribution, default rate})}$$

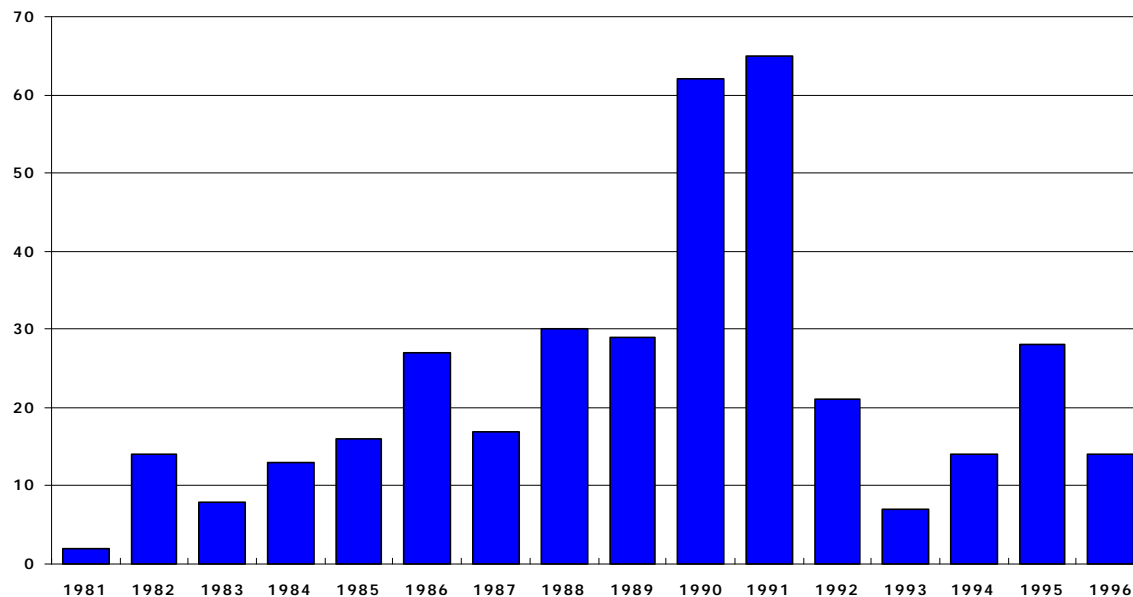
Poisson Distribution
Concentration risk

Sources of data for CREDITRISK⁺

Sources of data - default rates

Obligor default rates can be obtained from a variety of sources:

- Corporate portfolio ⇒ rating agencies publish historic default statistics, or proprietary default rate models e.g. KMV approach using equity prices
- Retail portfolio ⇒ internal data (default rate or loss by internal credit score)



Historic one-year default rates (of rated credits) show significant year to year variation.

Source: Standard & Poor's Ratings Performance 1996 (February 1997)

Sources of data - default rate volatility

Direct (historic) sources

- Estimate them directly, from same data set as the default rates
- For the US corporate market, the major rating agencies publish volatilities by rating category
- Unfortunately, this data may be of limited relevance

Credit Rating	One-year default rate (%)	
	Average	Standard Deviation
Aaa	0.00	0.0
Aa	0.03	0.1
A	0.01	0.0
Baa	0.12	0.3
Ba	1.36	1.3
B	7.27	5.1

Source: Carty & Lieberman, 1996, Moody's Investors Service Global Credit Research

Other sources

- can infer from equity and asset correlation data
- for investment grade credits this is the only feasible source

Sources of Data - Recovery Rates

Recovery Rate Studies	Moody's (Bank					
	S&P	Moody's (Bonds)	Loans and Bonds)	Altman/Kishore	Citibank	Fitch
Bank loans (general)	-	-	-	-	65%	-
Bank loans (secured only)	-	-	71%	-	-	82%
Bonds (senior secured)	59%	55%	57%	58%	-	-
Bonds (senior unsecured)	50%	51%	46%	48%	-	-
Bonds (senior subordinated)	-	-	-	34%	-	42%
Bonds (subordinated)	38%	34%	34%	31%	-	39%
Bonds (junior subordinated)	35%	20%	-	-	-	-
Average recovery rate	44%	41%	-	42%	-	-
Other Results						
Range of standard deviations (as % of mean)	38%-66%	43%-75%	30%	40%-73%	-	-
Effect of industry	Public utilities, chemicals/petroleum have high recoveries. Construction = high recoveries, retail = low recoveries.					
Other noted effects	Higher recovery rate (59%) measured at emergence relative to default.	Recovery correlated to macro-economic variables and default rates.	Bank loans averaged 14% of par more than comparable bonds.		Median recovery 79%. No correlation with size.	Recovery correlated to performance of equity markets.

Senior unsecured recovery rate \approx 50%; standard deviation also \approx 50%



Banco Central de la República Argentina

Jornadas Monetarias y Bancarias, 2000

Joe Peek y Eric S. Rosengreen

The role of foreign banks in Latin America

24 de Agosto de 2000

August 16, 2000

The Role of Foreign Banks in Latin America

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Central Bank of Argentina
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August 4, 2000

Valuable research assistance was provided by Zarmeen Katchi, Steven Fay, Carmen Corral-Solines, and Raquel Chmielewski. The views expressed are those of the authors, and do not necessarily reflect official positions of the Federal Reserve Bank of Boston or the Federal Reserve System.

Implications of the Globalization of the Banking Sector: The Latin American Experience

Joe Peek and Eric S. Rosengren

Not since the Great Depression has so much of the world faced widespread banking problems, with 112 episodes of systemic banking crises in 93 countries since the late 1970s (Caprio and Klingebiel 1999). These crises have imposed significant economic and fiscal costs on these countries; Honohan and Klingebiel (2000) find the average direct costs of banking collapses to be equal to 12.8 percent of GDP, with many countries' direct costs substantially exceeding this percentage.

Problems in the banking sector extend well beyond the fiscal cost to taxpayers, for a number of reasons. First, many firms do not have significant access to nonbank sources of external finance. Second, most firms have relied on financing from domestic banks, with bank relationships being highly valued and frequently including cross-shareholding or inclusion of bank representatives on the firm's board of directors. Third, most domestic banks in a given country have had similar portfolio exposures, so that banking problems have tended to affect the entire banking sector, rather than being idiosyncratic and affecting only a few individual banks. Thus, a major domestic shock can impair the solvency of a country's entire banking industry, leaving a country with no (or few) healthy major banks.

Such a sharp deterioration in the health of a country's banking sector forces the government to make a stark choice. On the one hand, bank regulators can undertake enforcement of strict bank regulations that will result in the widespread closure of insolvent banks. This can ensure the safety and soundness of the banks that do survive, but bank closure costs can be quite expensive for taxpayers, and the cost of the ensuing credit crunch can be substantial for individual firms and for the overall performance of the macroeconomy. While the

early closure of insolvent banks can stop the flow of red ink and contain the cost to the government of recapitalizing the banking system, at least in the short run, the increased macroeconomic costs associated with lost GDP have the potential to more than offset any cost savings, as weakened and failed firms cut production and employment. This path becomes even more problematic for policymakers if it leads to destabilization of the economy and political unrest. The alternative for bank regulators is to follow a policy of forbearance, allowing insolvent banks (and firms) to continue operating. Such a policy may limit the severity of any credit crunch, but it may also increase the ultimate cost to the government of recapitalizing the banking system. This will be particularly true if the moral hazard problem leads insolvent banks to take risky bets in a gamble for resurrection.

Because bank regulators in many countries in Asia and Latin America have been focused on triage for their banking sector, many banking reforms have, by necessity, been a pragmatic reaction to evolving domestic economic problems. Some countries have initiated major reforms, such as enhanced disclosure in financial statements, measures to improve transparency, and enhanced regulatory oversight. However, the sequence of measures taken has frequently had a pattern of two steps forward and one step back, as bank regulators have sometimes retreated from their initial supervisory and regulatory reforms in an attempt to satisfy political constraints and placate a populace resentful of squandered funds and huge potential tax liabilities caused by banking problems.

In response to the difficulties associated with reforming domestic bank supervision during a banking crisis, a number of countries have, in effect, imported their bank supervision by encouraging greater penetration of domestic markets by foreign banks. While foreign banks are subject to supervision by the host country, they also are supervised by their home country

supervisor, which frequently provides more oversight and requires greater disclosure than traditionally has been the case in many emerging markets.

A decision to open up domestic banking markets to foreign competition can provide important potential benefits for the host country, but it is not without significant risks. Among the benefits of opening domestic markets to foreign bank entry are the importation of new management and information technologies to improve banking services; the provision of a new source of funds to recapitalize a troubled banking sector; the provision of an alternative “safe haven” within the country that can reduce the volume of domestic funds that flow offshore during a financial crisis; and the presence of deep-pocket, well-capitalized (foreign) banks that can continue lending following a major adverse shock that substantially weakens the domestic banking sector. Arguments against allowing the entry of foreign banks into domestic markets usually include concerns that the competition from foreign firms will weaken domestic banks; that local regulatory and monetary authorities will have a diminished ability to alter bank behavior; that adverse shocks to foreign banks that are external to the host country may be destabilizing insofar as they adversely affect the banks’ behavior in the host country; and that foreign banks will not serve as a stabilizing influence by providing additional credit during a crisis in the host country.

Of course, many firms still have access to credit from foreign banks, even if those banks do not have a local presence. Much cross-border lending occurs through offices in a bank’s home country (or even one of its subsidiaries located in a third country), with no subsidiary (or even branch presence) located in the country in which the borrowing firm is headquartered. While retail banking requires brick and mortar points of contact with customers, wholesale banking requires a much smaller investment. For example, banks with no physical presence in a

country can lend substantial volumes of funds to firms and governmental entities of that country through project finance and loan participations. However, the composition of borrowers will differ depending on whether a foreign bank has a physical presence in a country or makes all of its loans from offshore. For example, offshore lending would tend to benefit multinational firms and the larger, more well-established firms in a country. On the other hand, a local retail-banking network would rely in part on funding from local depositors and also typically make credit available to small and mid-sized firms, as well as individual consumers. Thus, the distribution of the potential benefits across economic agents in a country that can arise from the provision of intermediary services by foreign banks will differ depending on whether the banks have a physical presence in that country and the nature of its operations.

A key question that has important implications for the extent and nature of any benefits or costs of foreign bank activity is how foreign banks behave during a banking crisis. Will foreign banks fill the void left by weakened domestic banks whose lending capacity is reduced by a large domestic shock, or will foreign banks retreat in the face of emerging problems in the host economy? Will strong foreign banks with a local presence serve as a safe haven for domestic depositors that is a viable alternative to moving their deposits offshore? In that case, a flight to quality by depositors associated with a crisis (or the threat of a crisis) will not produce as severe a drain of funds from the country's banking system. Furthermore, if foreign banks do expand market share, how do they choose to expand? Do they increase offshore lending from offices in the home country, expand lending from their branches or subsidiaries located in the host country, or make acquisitions of existing banks in the host country?

This paper focuses on the Latin American experience with foreign bank penetration, the response of foreign banks during a crisis, and the implications for bank supervision of having

globally active banks with significant stakes in the domestic banking sector of emerging economies. Focusing on Latin America has several advantages. First, individual Latin American countries have adopted different strategies toward foreign banks. Argentina has become particularly open to foreign banks and Mexico is beginning to be more open, while countries such as Brazil and Ecuador have been somewhat more reluctant to open their banking markets. Second, the series of shocks that buffeted Latin America during the 1990s provides an opportunity to examine how foreign banks respond to both banking and currency crises that potentially have significant effects on the domestic economy.

We first examine different measures of foreign bank penetration. We find that common measures of foreign bank penetration used in many previous studies substantially understate penetration because they ignore offshore lending and may overstate the increases in penetration because they focus only on the growth of foreign subsidiaries. We also find that calculating foreign bank penetration using only Bank for International Settlements (BIS) cross-border claims data will understate foreign bank activity in some countries, since foreign subsidiaries from BIS nonreporting countries have been increasing. Furthermore, we find that foreign bank penetration does not tend to decrease after a crisis. For many of the countries, all measures of foreign bank penetration rise after crises, with some instances reflecting acquisitions by foreign banks and others reflecting internal growth of lending by existing foreign bank operations relative to their domestic competitors. The rise in bank penetration has primarily been the result of expanded lending by foreign subsidiaries, with some evidence that offshore lending does decrease after a crisis. This implies that host countries interested in longer-term lending relationships may prefer to have the brick and mortar investment of foreign bank subsidiaries rather than the offshore lending that tends to flee during a crisis.

The next section of the paper elaborates on the costs and benefits of opening the domestic banking sector to foreign competition and briefly provides some background on the legal and economic conditions that have affected foreign bank penetration in the major Latin American countries. The second section describes the data, a combination from a variety of international banking sources. The third section describes how foreign banks have reacted to recent crises affecting Latin American countries. The fourth section draws out international supervisory implications of the Latin American experience with foreign banks and provides some conclusions.

I. Costs and Benefits of Foreign Bank Competition

Opening the banking sector to foreign entry has been a highly sensitive issue. Many East Asian countries have allowed only isolated acquisitions of domestic banks by foreign banks. While several countries in Latin America have encouraged foreign bank entry, it remains a sensitive issue in some of the biggest markets. This has been particularly true in Brazil, where the proposed sale of Banespa (Banco do Estado de Sao Paolo), a large government-owned bank with an extensive branch network, has resulted in much criticism. Furthermore, the Brazilian government has announced that foreign banks would not be allowed to open new branches or acquire smaller banks unless they purchased one of the troubled government-owned banks. However, the willingness of the Brazilian government to continue to open its banking markets despite political opposition reflects the significant potential benefits of an increased foreign bank presence.

A more open banking market that allows well-capitalized, internationally diversified banks to enter the market has several substantial potential benefits. First, such firms are likely to

be able to provide bank financing to creditworthy borrowers, even in the presence or aftermath of a significant adverse domestic shock. While local banks with only (or primarily) domestic operations may be severely impaired by domestic shocks, a large global bank with operations in many countries (and with the host country representing a small share of its exposure) is much less likely to be affected. This is particularly true because the impacts of recent international shocks have been localized. The recent problems in both East Asia and Latin America did little to dampen the European and American economies, enabling banks headquartered in those countries to be well positioned, should good lending opportunities arise.

Second, global banks are often an important source of new capital for a devastated banking sector following a crisis. Foreign banks have been a major source of funding in the aftermath of the banking crises in Argentina, Mexico, and Brazil, and this has been one of the major catalysts for allowing foreign bank entry. A severe banking crisis rarely leaves domestic banks well capitalized, and recapitalizing banks with private sector funding frequently requires finding investors not heavily exposed to the domestic shock. Allowing foreign banks to enter a previously closed market, or substantially increasing the foreign bank presence in the market, can provide additional sources of private sector funding for bank recapitalization plans, thus reducing the costs to the government relative to the costs incurred if only domestic investors can bid for the good assets of failed banks. In addition, the presence of international banks may encourage other foreign (nonbank) firms to consider investing in the host country, in much the same way that banks have been shown to follow their customers abroad (Seth and Nolle 1996).

Third, global banks bring the host country practices consistent with the financial and regulatory reporting requirements of their home country. For example, for U.S. banks, Securities and Exchange Commission (SEC) requirements for reporting material events and even stock

exchange listing requirements frequently provide significant improvements in disclosure compared to those in an emerging market host country. Similarly, the reporting of host country activities to the home country regulator often requires information systems and details that may not be standard in the host country. These improvements in financial reporting are likely to have positive spillover effects, as personnel switch to domestic competitors and as regulators, investors, and depositors become aware of differences between the operations of domestic and foreign banks.

Fourth, many of the globally active banks are among the most efficient in their home country, and they are likely to introduce improved management and information technologies to the host banking market (Focarelli and Pozzolo 2000). Entry of foreign banks is one way to quickly transfer the best practices currently in use in more developed banking markets (Levine 1996), thus improving the efficiency and range of intermediation services in the host country.

Finally, the presence of well-capitalized foreign banks may lessen the severity of domestic shocks by mitigating the extent to which the funds of worried domestic savers and investors flee the country when an adverse shock is anticipated. Foreign banks frequently provide a safe haven for depositors who might otherwise choose to remove their funds from the country rather than risk leaving funds in a failing domestic bank. Such a flight to quality would cause further pressures on foreign exchange rates and liquidity, draining the country of hard currency at the time it is most needed. In addition, in countries that allow foreign currency deposits, depositors may be more comfortable placing such deposits in foreign banks that have more ready access to foreign currency during a banking crisis, with the lender of last resort for the bank being the central bank in the bank's home country rather than that of the host country.

Despite the many advantages to allowing foreign banks to enter domestic banking markets, significant resistance remains. Even with the severe financial problems of many domestic banks in East Asia, the extent of sales of troubled banks to foreigners has remained relatively limited. And notwithstanding several large bank failures and nationalizations of banks in Japan, Long-Term Credit Bank, to date, is the only major Japanese bank to be sold to non-Japanese investors. Instead, the government has preferred to sell troubled banks to other troubled banks (such as allowing Chuo Trust to acquire the Honshu branches of Hokkaido Tokashuko) or to commercial firms (Softbank, an internet software company, has been chosen as the acquirer of Nippon Credit Bank), or to have mergers among domestic banks. Similar resistance to accepting foreign direct investment in their domestic banking market has been the case in other Asian countries.

Perhaps most often voiced is the concern that foreign banks will not have an attachment to domestic borrowers. Obviously, a multinational bank faced with a binding capital constraint can choose where to shrink assets, and evidence from the Japanese banking crisis indicates that banks do sometimes choose to shrink their host country operations more than those at home when they have home country problems (Peek and Rosengren 1997; 2000). However, recent case studies have indicated that multinational banks will expand operations when faced with host country problems (Goldberg, Dages, and Kinney 2000). Of course, if the home and host country problems are correlated, domestic borrowers may be forced to seek alternatives at a time when they are least available, to the extent that multinational banks have a weaker attachment to the borrowers in the host country compared to those in their home country.

A second concern is that regulatory and monetary authorities may have less control if the banking sector has a sizable foreign bank presence. In many countries, the banking system is an

instrument for government credit allocation schemes, with lending directed to sectors viewed as key by the government. This can be done directly, through government-controlled lending agencies or mandates to domestic banks, or indirectly, by encouraging lending to preferred sectors through the tax code or subsidies, such as low-cost loans from the central bank. Furthermore, the regulator's ability to engage in moral suasion may be lessened when dealing with an entity more focused on the expected financial returns from a transaction and less sensitive to domestic goals promulgated by the government.

The third concern is that bank supervisors could lose control of decisions that may have an impact on the economy. Foreign banks may be more responsive to changes in capital requirements or disclosure requirements of the home country regulator, whose regulations may be the binding constraint on their behavior, and such changes have the potential to adversely affect the willingness of banks to lend in the host country. Furthermore, decisions to acquire or merge with other banks or to become involved in nontraditional banking activities that may indirectly affect the willingness of the foreign bank to lend in the host country may be strongly affected by the home country regulator.

The fourth concern is that the domestically owned banks may be unable to compete globally, having operated with a lack of up-to-date technology and services and in a protected environment that did not penalize inefficiency. Then, entry by efficient, globally competitive firms may cause further financial distress in a sector that is often already deeply troubled and may contribute to a further weakening and additional failures of domestically owned banks. In fact, several studies have found that foreign entry results in lower interest margins and a reduction in profitability (Clarke, Cull, D'Amato, and Molinari 1999; Claessens, Demirguc-Kunt, and Huizinga 1998). Furthermore, multinational banks may draw the most creditworthy

borrowers that desire greater access to knowledge and services for international operations, leaving only the riskiest firms as loan customers for the domestically owned banks.

The final concern is political rather than economic. Fears that foreign banks will not be responsive to domestic credit needs often fuel populist reactions. In addition, the point is sometimes raised that local deposits will be used to fund projects outside the host country. Thus, relaxation of restrictions on foreign bank entry has tended to occur most often as a consequence of adverse shocks that cause a severe deterioration in the health of domestic banks or as the result of the move to privatize publicly owned banks.

Brazil

Brazil's banking market is the largest in Latin America, and it has undergone substantial changes over the past decade. Prior to 1994, Brazil had a relatively small foreign subsidiary presence, with the number of foreign banks frozen at its 1988 level (Thomson Financial 1998), although foreign banks were subject to the same regulations as Brazilian-owned banks.

Problems in the macroeconomy associated with hyperinflation diminished the ability of the Brazilian banking sector to provide standard intermediation services and made the banking market less attractive for aggressive foreign entry. Domestic banks, faced with challenging domestic economic conditions, specialized in managing the float, which enabled them to profit despite rapid inflation.

With the adoption of the Real plan in 1994, the Brazilian government committed to returning to a low-inflation environment. This commitment implied significant changes in the economic environment for banks, as they were now expected to be profitable from extending credit, and both banks and firms could no longer expect to generate profits through managing the inflation float. The restructuring of the economy and the banking system resulted in many banks

having negative net worth. In response, the government adopted deposit insurance, creating the Credit Guaranty Fund, and added a program of incentives for the restructuring and strengthening of the financial system, as well as a program of incentives for the reduction of the state public sector in banking activities. Foreign bank entry was approved on a case-by-case basis, to recapitalize troubled banks or to encourage development in particular sectors of the economy. The laws also gave the central bank more supervisory powers and enhanced its ability to close and sell troubled banks.

The combination of government interest in selling off troubled banking assets and a macroeconomic environment more conducive to banking services normally provided by foreign banks resulted in a significant increase in foreign bank penetration. Foreign banks increased their share of the net worth of the banking system from 7.3 percent in 1993 to 15.8 percent in 1998 (Banco Central do Brasil 1998).

Brazil is continuing the process of privatizing government-controlled banks. One of the largest state banks, Banespa, is particularly attractive because of its large retail operations, and the government is currently soliciting bids which could possibly attract several foreign bidders. The rising foreign bank presence in Brazil and the continued sale of state-controlled banks has also increased political discussion concerning the optimal level of foreign bank penetration.

Mexico

In the wake of the 1982 debt crisis, Mexico nationalized all banks except one foreign bank, Citibank, and one union-owned bank, Obrero. The banks remained under government control until it was decided to privatize the state-owned banks, a process that was completed in 1992. The privatization program limited foreign participation to a 30 percent stake, with a 5 percent cap on individual foreign bidders. Beginning in 1994, new bank regulations and the

adoption of NAFTA allowed new entry by foreign banks (Gruben 1997). They began to establish subsidiaries in Mexico, with much of their focus on wholesale rather than retail banking.

Following the Tequila crisis of 1994 and the failure of many of the previously privatized domestic banks, the Mexican government further relaxed restrictions on foreign acquisitions, in order to help recapitalize domestic banks that had encountered financial difficulties. Starting in 1995, foreign banks were allowed to hold a controlling stake in domestic banks, as long as the bank accounted for less than 6 percent of the domestic banking system. For the largest banks, Grupo Financiero Bancomer, Grupo Financiero Banamex, and Grupo Financiero Serfin, foreign ownership was capped at 20 percent. In 1999, the restrictions on foreign ownership of the largest banks were eliminated, allowing even the largest banks to be foreign controlled.

The gradual relaxation of restrictions on foreign bank entry into Mexico has resulted in foreign bank stakes increasing from less than 1 percent of loans in 1994 to 15 percent in 1998 (Citigroup 1999). However, the three largest banks control roughly 60 percent of the Mexican banking market, and any substantial change in foreign penetration would require ownership changes among the three. And indeed, current changes may dramatically alter the landscape of Mexican banking. The largest bank, Financiero Banamex, made an unsolicited offer for Grupo Financiero Bancomer after the latter had agreed to be acquired by a Spanish bank, BBVA, although BBVA did win the bidding. The third largest bank, Grupo Financiero Serfin, required government intervention and was sold to Banco Santander, a Spanish bank, which outbid the other major bidder, HSBC, a British bank. While the situation remains fluid, by the end of 2000, foreign banks will account for a substantial share of the Mexican market.

Argentina

As in Brazil, the banking system in Argentina was significantly altered by the country's macroeconomic policies of the late 1980s, which culminated in several years of hyperinflation. The combination of hyperinflation and a freezing of bank deposits resulted in a dramatic shrinking of inside money, so that the ratio of M3 to GDP was only 5 percent as of 1990 (Calomiris and Powell 2000). In 1991, the Argentine government adopted a currency board, as well as a series of bank reform measures. The existence of a currency board prevented the central bank of Argentina from lending money to governmental or financial institutions, but the reforms gave the central bank considerable independent authority to supervise and regulate financial institutions. The foreign bank presence in Argentina at the time was relatively small, with roughly 15 percent of the financial institutions being foreign owned, a reflection of the turbulent macroeconomic environment.

Foreign bank penetration was influenced by three events, changes in the investment law, the Tequila crisis, and the ongoing privatization program. First, changes in the investment law, required that foreign capital be treated the same as domestic capital. This encouraged foreign direct investment into Argentina, including investments into the private sector. Second, the Tequila crisis substantially weakened a number of Argentine banks, with 12 banks liquidated, 39 merged, and 2 suspended and eventually merged (Calomiris and Powell 2000). The Tequila crisis also resulted in a substantial outflow of bank deposits, with a 17 percent decline after December 1994 (Moody's 1995). The serious financial stress on the banking system caused the central bank to lower reserve requirements and the government to introduce deposit insurance. The bank privatization program was accelerated. While only three institutions were privatized between 1992 and 1994, 15 institutions with assets of over 4 trillion pesos were privatized

between 1995 and 1999. While privatized banks mostly attracted domestic capital, it provided greater entry points for foreign banks to purchase existing banks, and by 1999, foreign banks accounted for approximately 40 percent of all deposits.

Argentina has been a market leader in adopting open banking markets with substantial regulatory oversight. Foreign bank penetration occurred earlier there and has been more significant than in most other Latin American countries. In addition to encouraging foreign investment in the banking system, the central bank has adopted a number of supervisory innovations. Banks are required to hold minimum risk-based capital of 11.5 percent, well above the minimum BIS standards. In addition, capital requirements are adjusted according to a bank's CAMEL rating issued by bank supervisors; banks are required to provide regular financial reports according to standards that are similar to U.S. GAAP; banks are required to issue subordinated debt, and banks are required to obtain regular credit ratings from authorized rating agencies. Thus, while the existence of a currency board has prevented the traditional lender of last resort role, providing less flexibility in addressing financial crises, it has encouraged the central bank to be more innovative in preventing future banking crises, including allowing for more significant foreign bank penetration than has occurred in most other Latin American countries.

II. Foreign Lending to Argentina, Mexico, and Brazil

Because of the recent financial history in many of the countries, consistent time series for Latin American bank data over an extended period of time are impossible to develop. Mexican banks were not privatized until the early 1990s, and Argentine and Brazilian banks and banking data are so different during the hyperinflation period that the data prior to the adoption of the

Real plan in Brazil and the currency convertibility in Argentina are not comparable to those for more recent periods. Thus, our sample for all three countries begins in 1994.

Because of the large offshore lending operations to many Latin American countries, it is important to focus on total cross-border commercial bank credit provided to a country, rather than limiting the analysis to commercial bank credit provided by domestically owned banks and domestic subsidiaries of foreign banks located in that country. Banks that are interested only in providing financing to large multinational firms with operations in a specific country, or even to the largest, most creditworthy domestic firms in that country, may not find it necessary to open a bank subsidiary in that country, a process that would require a substantial investment in brick and mortar, personnel, and complying with local regulatory requirements. Rather, the lending can occur from offices in a bank's home country or other offshore offices that have already been established. Banks with clients that are primarily multinational firms are likely to have contacts with a firm in a number of countries, and the array of international financial services desired by the firm may not require a significant in-country presence, since the banks' financial experts, the financial markets, and the funding sources will be located outside the country in which the operations to be funded reside. However, if a bank wants to cater to smaller firms in a country or is interested in a retail banking operation in that country, it will be important to maintain local points of contact with the customers, requiring the investment in a bank subsidiary in the host country.

To capture financing made from the home country rather than from within the host country, we utilize data collected by the Bank for International Settlements (BIS). The BIS provides semiannual reports on cross-border exposures of banks from 18 major industrialized countries (reporting countries).¹ Banks headquartered in the reporting countries are asked to

provide their entire exposure to customers in a borrowing country. This includes all cross-border exposures of all their bank offices worldwide, including local claims of foreign affiliates of the bank. To avoid double-counting, the BIS data exclude positions between different offices of the same bank, as well as claims on other banks from the reporting countries. The claims of the banks include items such as deposits and balances with other banks, loans and advances to banks and nonbanks, holdings of securities, and loan participations and syndications.. The data are also disaggregated by the maturity of the claim and by whether the borrowing entity is in the public sector, private sector, or banking sector. However, the detailed data by source country are confidential.

The BIS data are structured to focus on foreign currency exposures. To obtain the total foreign claims by banks on entities within a country, regardless of the currency of the claim, the consolidated cross-border claims in all currencies and local claims in non-local currencies must be combined with the local currency claims of reporting affiliates with local residents in the host country. Furthermore, double-counting can occur if a foreign bank has a claim on another foreign bank that then lends to local firms. To avoid this double-counting, the claims on banks with head offices outside the country of residence must be subtracted from the total cross-border claims. Figure 1 shows total foreign claims in constant 1995 dollars (deflated by the wholesale price index) on Argentina. Despite the variety of shocks that have buffeted the Argentine economy, foreign claims on Argentina have been growing. Total claims continued to grow after the Tequila crisis in December 1994, rose sharply during the second half of 1997 during the initial stage of the East Asian problems, and then increased through the January 1999 Brazilian devaluation.

Figure 2 shows foreign claims on Brazil. Foreign claims did decline during the second half of 1994 leading up to the Tequila crisis, but then rose continuously until June 1998. Following the peak, claims declined rather abruptly, with the decline continuing through yearend 1999. Figure 3 shows the same series for Mexico. Immediately following the Mexican devaluation in December 1994, foreign claims measured in dollars began to decline. Total claims began to increase in the second half of 1996 and continued to rise strongly through the end of 1997. The series then paused during the first half of 1998 as the East Asian crisis continued before resuming its growth in the second half of the year. Total claims peaked in December 1998 and then declined somewhat in 1999. Overall, foreign claims in Argentina have continued to grow despite the problems in its domestic economy, providing no evidence that foreign borrowers will abandon markets when problems become apparent. On the other hand, claims (measured in dollars) on Mexico and Brazil show some evidence of declines following crises, although comparisons with domestically owned banks are needed to clarify whether the behavior of foreign banks differed from that of the domestically owned banks.

Foreign Bank Penetration

In order to compute the degree of foreign bank penetration, equivalent information for the domestic banking market of each country is required. Balance sheet and income data on individual banks located in each of the three countries were obtained from the IBCA database. IBCA covers domestically owned banks as well as foreign bank subsidiaries, but generally does not provide coverage of branches of foreign banks. The IBCA coverage of banks has been incomplete until recently, and semiannual data are available only for 1997, 1998, and 1999. The banks were divided into two groups: those that are foreign-owned and those with domestic ownership. We classify a bank as foreign owned if foreign ownership exceeds a 50 percent

ownership stake. According to correspondence with the BIS, the decision whether to include a bank's affiliates not located in its home country that are only partly owned by the bank is left up to the reporting bank. However, in most cases these foreign subsidiaries are included in the consolidated reporting of the parent bank only if it has a majority ownership stake, in which case 100 percent of the subsidiary's claims are attributed to the reporting (parent) bank.² The sources for ownership stakes are the Bankers Almanac, Salomon Smith Barney, various government sources, searches on Bloomberg, and individual bank web sites.

IBCA data for individual banks are used to calculate aggregated bank data series equivalent to those based on BIS data for the set of subsidiaries of foreign banks and for the set of domestically owned banks in each country. These aggregated measures are constructed from the individual bank data by subtracting non-earning assets, equity investments, and fixed assets from the sum of total assets and loan loss reserves. We then calculate four measures of foreign bank penetration by combining BIS and IBCA data.

For the first measure, we calculate total cross-border claims as total BIS claims plus claims of nonreporting foreign subsidiaries (broad claims measure) using the 50 percent ownership threshold to classify bank subsidiaries as foreign-owned. The only cross-border claims that are missing are cross-border claims by banks from nonreporting countries booked by the parent bank rather than through a subsidiary located in the host country. This sum is divided by the sum of total BIS claims, claims of nonreporting foreign subsidiaries, and claims of all domestically owned commercial banks.

Many of the recent studies of foreign bank penetration have focused only on the banks that operate within a country's borders (Clarke, Cull, D'Amato, and Molinari 1999; Claessens, Demircuc-Kunt, and Huizinga 1998; Goldberg, Dages, and Kinney 2000; Focarelli and Pozzolo

2000). However, such an analysis excludes an important source of credit from banks that are operating offshore. In fact, for many countries, the volume of credit provided by foreign banking organizations from offshore, including that provided through branches located in the host country, is much larger than the credit provided through the foreign bank subsidiaries that have been established in the host country. In fact, until the end of 1997, for Argentina, Mexico and Brazil, cross-border claims not attributable to foreign subsidiaries of banks located in BIS reporting countries exceeded the sum of claims of all their foreign subsidiaries in each of the countries.

The second measure of bank penetration (the narrow claims measure) ignores cross-border lending other than that done through foreign subsidiaries within the country. It is calculated as claims of foreign subsidiaries (from both reporting and nonreporting BIS countries) divided by the sum of claims of foreign subsidiaries and claims of domestically owned commercial banks. The next two measures of bank penetration focus on bank liabilities rather than bank assets. We use a limited measure of deposits, which includes demand deposits, savings deposits, and time deposits (narrow deposit measure), as well as a more expansive measure that also includes interbank deposits, open market funding, and other short-term borrowing (broad deposit measure). For both measures, we compute the penetration share as the ratio of deposits in all foreign subsidiaries to the sum of deposits in foreign subsidiaries and from domestically owned banks. Deposit penetration focuses on foreign operations at the retail level, while measures of credit that include offshore loans may capture the foreign penetration into wholesale bank operations as well. Furthermore, deposit penetration may be particularly responsive to crises, rising to the extent that host country depositors engage in a flight to quality.

Table 1 provides the four measures of foreign bank penetration for Argentina, Mexico, and Brazil. It is clear from the table that both the magnitude of foreign penetration and the pattern of foreign penetration can differ greatly both across countries and over time depending on the measure used. For Argentina, where foreign penetration had been greater in 1994 by all measures than for the other two countries, the variation is particularly striking. The broad claims measure of penetration, which includes offshore loans and claims of foreign subsidiaries not from BIS reporting countries, was 46.3 percent in December 1994, more than twice the penetration level of the other three bank penetration measures, which are based only on data for banks located in the host country. Furthermore, the broad claims measure of foreign penetration has been increasing more slowly than the other measures of bank penetration, rising about 11 percentage points from December 1994 to December 1999. In contrast, the increase in the penetration by foreign bank subsidiaries shown in the narrow claims measure is much more dramatic, rising from 13.0 percent at the end of 1994 to 42.9 percent by the end of 1999. Thus, an increasing share of total foreign claims on Argentina can be attributed to foreign bank subsidiaries located in Argentina rather than to offshore lending.

Bank penetration measures also vary substantially for Brazil and Mexico. The broad claims measure of foreign bank penetration in December 1994 was 18.0 percent for Brazil, again more than twice the penetration calculated by the other three measures that are based on only banks located in Brazil. For Mexico, with its more severe restrictions on foreign ownership of banks, the broad claims measure was 31.3 percent in December 1994, while the other three measures were no greater than 1 percent. In Brazil, the broad claims measure has doubled, rising from 18.0 percent to 36.1 percent. In Mexico, the broad claims measure was 31.3 percent in December 1994 and 45.8 percent in December 1999. Thus, the broad claims measure of

penetration that includes offshore lending has grown a little less than 20 percentage points in Brazil, roughly in line with the percentage point increases of its other penetration measures. On the other hand, the broad claims measure in Mexico increased less than 15 percentage points, while each of the other three measures of penetration increased by more than 20 percentage points

For all three countries, the narrow claims measure of foreign bank penetration moves quite similarly to the movement of the broad deposit measure of foreign bank penetration. This likely reflects the close link between the lending by entities located within the host country and the local availability of funding of banks. The narrow deposit measure of foreign bank penetration tends to mirror the broad deposit measure, with a slightly higher penetration generally for the broad measure for Argentina since December 1996 and for the entire sample period in Brazil, but only until December 1997 for Mexico.

The narrow and broad claims measures of bank penetration seem to be converging in Argentina, in part because of aggressive privatization of government owned banks. As foreign banks get established with brick and mortar operations, an increasing share of the lending moves from offshore to onshore. However, in Brazil and Mexico, where there has been more resistance to opening up banking markets, the narrow claims and both deposit measures of penetration have remained well below those in Argentina. While all of the measures in Brazil have tended to increase by similar amounts, the recent increase in foreign bank subsidiaries' claims in Mexico have caused the gap between the degree of penetration for broad claims and those for the other three measures to narrow, so that by December 1999 the percentage point gap was less than half of its December 1994 value.

The penetration numbers do not indicate withdrawals of foreign bank participation following a financial crisis. Following the Tequila crisis, each of the four measures of foreign bank penetration rose in Mexico. In Argentina, only the broad claims measure declined in December 1995, while in Brazil, the narrow claims, broad deposit and narrow deposit measures showed only a slight decline. Despite the turmoil created by the East Asian crisis and the Brazilian devaluation, comparing all measures of foreign bank penetration on December 1997 to those on December 1999 indicates an across the board increase in all three countries.

Total Claims and Broad Deposit Shares by Bank Category

Table 2 shows percentage shares of total claims and broad deposits by bank categories for Argentina. The banks are partitioned into five categories: foreign bank subsidiaries from BIS reporting countries, foreign bank subsidiaries from nonreporting countries, foreign non-subsidiary claims from reporting countries (offshore lending from BIS reporting countries), government-owned domestic banks, and privately owned domestic banks.³ Foreign bank subsidiaries from BIS reporting countries have been consistently increasing their claims in Argentina, with much of this increase reflecting the aggressive acquisition of domestic privately owned and state-owned banks by European and U.S. banks. The share of total claims attributable to foreign bank subsidiaries from reporting countries grew from 7.85 percent in December 1994 to 29.64 percent in December 1999, which slightly exceeds the share attributable to state-owned banks and is more than double the share for domestically owned privately held commercial banks. Foreign bank subsidiaries from nonreporting BIS countries have also been increasing their share of total claims, from 0.15 percent in December 1994 to 2.32 percent in December 1999. Studies of foreign bank penetration that rely on BIS data to calculate the degree of penetration would understate the penetration, since foreign subsidiaries from BIS nonreporting

countries are excluded (Weller and Scher 1999). Similarly, studies that consider only foreign bank subsidiary activity and ignore the offshore cross-border lending that occurs directly from the headquarters or branches of foreign banks (that is included in the BIS data) would substantially understate the extent of foreign bank penetration in a country's credit markets. For Argentina, this offshore lending represents by banks headquartered in BIS reporting countries (foreign nonsubsidiaries reporting) accounts for a significant share of total claims.⁴ While this lending has been generally increasing over the past five years, it has not grown as rapidly as total claims, with the share shrinking from 38.31 percent to 25.55 percent by December 1999. Thus, it appears that a major shift in the composition of foreign bank lending has occurred, as foreign banks have increased their claims through existing and newly acquired onshore bank subsidiaries in Argentina rather than through offshore operations. Finally, the increased share of total claims attributable to foreign banks has come at the expense of domestically owned private banks rather than the state-owned banking sector. While state-owned banks have increased their share of total claims slightly, the share of domestic privately owned banks has halved.

The pattern during crisis periods is also interesting. During 1995, immediately following the Tequila crisis at the end of 1994, loans at foreign subsidiaries increased, while the share of claims from offshore decreased, with the total foreign bank share declining just over 1 percentage point. On the domestic side, privately owned banks absorbed an increased share, with state-owned banks shrinking their share. Similarly, during the period that includes the East Asian problems and the Brazilian devaluation, foreign bank subsidiary claims rose from 25.84 percent in December 1997 to 29.64 percent in December 1999, while the offshore share of claims fell slightly, from 27.21 percent to 25.55 percent. However, in this case the total share of foreign banks, including those from nonreporting countries, rose slightly, from 56.07 percent to

57.51 percent. In this case, the growth came at the expense of privately owned banks, with share of state-owned banks increasing.

Similar patterns emerge in the domestic deposit market. For the broad deposits measure shown in the bottom panel of Table 2, foreign bank subsidiaries increased their deposit share steadily from December 1994 through June 1998. After declining somewhat, the share was again near its June 1998 peak by December 1999. Most of this growth has come at the expense of domestic privately owned banks, which by December 1999 held a deposit share that was only about 40 percent of its 1994-1995 values. At the same time, state-owned banks have also experienced a reduced share of the domestic deposit market.

Table 3 provides the same total claims and broad deposit information for Brazil. The share of total claims attributable to foreign bank subsidiaries has increased fairly steadily since 1994. The share of claims at foreign subsidiaries from reporting countries grew from 5.12 percent in December 1994 to 19.17 percent in December 1999. The share of claims at foreign subsidiaries from nonreporting countries also increased, with the share rising from 0.55 percent to 2.33 percent, although it did reach a peak of 3.21 percent in December 1997. The offshore share of claims has also grown, although at a much slower pace than that of the foreign bank subsidiaries, rising from 12.32 percent to 14.64 percent. Because many of the offshore loans are denominated in U.S. dollars, the Brazilian devaluation made the value in reais of these offshore credits increase dramatically. However, as Figure 2 showed, BIS total claims in dollar terms have been decreasing since the peak in June 1998.

The Tequila crisis did not have a large impact on Brazilian lending. The share of total claims attributable to foreign bank subsidiaries declined slightly between December 1994 and December 1995, both for reporting and nonreporting countries. On the other hand, the foreign

offshore share of claims increased from 12.32 percent to 15.63 percent. On the domestic side, privately owned banks increased their share by almost 3 percentage points, while state-owned banks lost nearly 5 percentage points of their share. During the series of problems later in our sample that included the East Asian crisis and the Brazilian devaluation, the share of claims attributable to foreign bank subsidiaries continued to increase. The share of offshore claims also rose. However, one can observe a temporary decline in the second half of 1998 prior to the devaluation and a decline in the second half of 1999 following the upward spike in the share associated with the effect of the devaluation on the dollar-denominated credits. During this period, the shares of both state-owned and privately owned domestic banks declined, with the percentage point decline at state-owned banks being roughly double that for privately owned banks. Thus, while the Tequila crisis had little impact on foreign lending, it does appear that offshore lending was more sensitive to the problems associated with the Brazilian devaluation.

Foreign bank subsidiaries from reporting countries increased their share of broad deposits steadily throughout the December 1994 to December 1999 period, from 5.46 percent to 20.11 percent. Those from nonreporting countries increased their share from 0.60 to 3.18 percent, peaking in June 1998 at 3.70 percent. During this period, the share held by state-owned banks eroded steadily, except for a temporary increase in the second half of 1998 just prior to the devaluation, declining from 57.02 percent to only 33.56 percent. At the same time, privately owned banks increased their share from 36.92 percent to 43.14 percent.

Table 4 shows the shares of total claims and broad deposits by category of bank for Mexico. Unlike Argentina and Brazil, Mexico does not have foreign subsidiaries from BIS nonreporting countries and, since our sample period follows the reprivatization of Mexican banks, does not have state-owned commercial banks during our sample period. Foreign bank

subsidiaries have increased their share of total claims in Mexico dramatically, from 0.68 percent in December 1994 to 15.89 percent in December 1999, with most of the increase occurring during 1996. Although the share of claims attributable to offshore operations of foreign banks fluctuated, its value of 29.87 percent in December 1999 is little changed from its 30.61 percent value in December 1994. Thus, the increase in the share attributable to foreign bank subsidiaries came at the expense of privately owned domestic banks, as their share decreased from 68.70 percent to 54.24 percent. This decline occurred steadily over the sample period, although the share did rise somewhat in the second half of 1999. Finally, the rise in the share of broad deposits of foreign bank subsidiaries is even larger than for total claims, coming totally at the expense of domestically owned private sector banks.

The three tables showing the changing shares of total claims and broad deposits across categories of banks indicate several trends. First, foreign bank subsidiaries from BIS nonreporting countries have increased their shares in Argentina and Brazil. Thus, BIS data focused only on foreign lending exposures from reporting countries will understate the increase in foreign bank penetration in these two (and likely other) Latin American countries, as these countries become more integrated. Second, the growth in the shares attributable to foreign bank subsidiaries has increased steadily and substantially in each of the three countries. Furthermore, the evidence does not indicate any great reluctance on the part of foreign bank subsidiaries to expand operations when the host country is suffering from a crisis. Third, offshore lending appears to be somewhat more sensitive to economic instability in the host country than is the case for onshore operations.

III. Conclusion

Foreign entry into domestic banking markets remains a contentious issue. Whether privatizing a state bank in Brazil or selling a failed bank in Japan, the possible sale of a large domestic financial institution, possibly to a foreign acquirer, frequently results in a major controversy. Many Asian countries have yet to experience major foreign penetration of domestic banking markets, while many Latin American countries have privatized many of their banks and have encouraged foreign banks to enter their domestic markets. Because many Latin American countries opened their markets during the 1990s, and because they have experienced exchange rate and banking crises as well as severe fluctuations in their macroeconomies over this period, Latin American countries provide a good laboratory for understanding the effects of foreign bank penetration.

An examination of Argentina, Brazil, and Mexico indicates that the growth of foreign bank subsidiaries has continued unabated, despite the economic problems buffeting these countries. Thus, foreign bank subsidiaries did not pullback in response to economic problems in the host country; rather, they viewed the economic problems as providing opportunities to expand, either by acquisition or by internal growth of existing subsidiaries. The same is not true for offshore lending. Offshore lending does sometimes retrench during difficult economic times. Thus, if a country is concerned about the stability of foreign lending, it should encourage cross-border lending through brick and mortar subsidiary operations rather than through offshore lending. Furthermore, such lending has advantages from a supervisory standpoint, since subsidiaries are likely to behave more like domestic banks, while offshore lending is more difficult for the host country supervisor to monitor or influence.

Understanding the financial condition and motivations of foreign bank operations represents another important supervisory issue. In Argentina, with more than half the banking system under foreign control, it will become increasingly important to understand the intentions of foreign bank management and foreign bank supervisors. While coordination of international bank supervision has improved, the movement toward greater supervisory coordination needs to accelerate. Major changes by bank supervisors or bank management could result in a significant shrinkage of the financial system in a host country and reverberate through the local economy. In addition, diversification in the nationalities of foreign banks lending to a host country will be advisable, so that banking problems in any one home country do not pose significant hardships in the host country.

The Bank for International Settlements has improved our understanding of international banking flows and helped coordinate bank supervision internationally. However, more needs to be done. The focus of BIS data on flows from reporting countries will become less relevant as banks from nonreporting countries increase their foreign presence as countries in a given geographical region become more integrated. This is particularly true in Latin America, where banks from nonreporting countries have been establishing sizable foreign subsidiaries in neighboring countries.

The importance of having good banking data that are comparable across countries will only increase. Academic studies that have used data on foreign bank penetration should be cautious in interpreting results and drawing conclusions. Foreign bank penetration data vary substantially, depending on the measure used. Studies of the depth of banking markets and the effects of foreign bank penetration have often focused only on foreign bank subsidiaries located in the host country, ignoring the important role of offshore lending, or, if they do focus on BIS

cross-border claims data, do not supplement that data with information for foreign bank operations from nonreporting countries. These factors can affect the measured magnitude of foreign bank penetration as well as its trend, which should cause researchers to be particularly cautious in interpreting their results. The banking data are further complicated by the difficulty in obtaining reliable structural information on domestic banking systems. The BIS and other international organizations could play an important role in encouraging more consistent reporting of banking data, both balance sheet and income data and structural changes in banking markets, to help improve emerging market analysis.

The presence of foreign bank subsidiaries potentially can provide large benefits to the host country. Foreign banks may introduce new technology and management, accelerating financial development. Foreign banks are also more diversified and are less likely to be forced to shrink because of local economic problems. In fact, we find evidence that foreign subsidiaries expanded during such troubled times in the host country. Being better diversified against local banking problems should ameliorate credit crunches and provide a more competitive banking market for borrowers and depositors in host countries.

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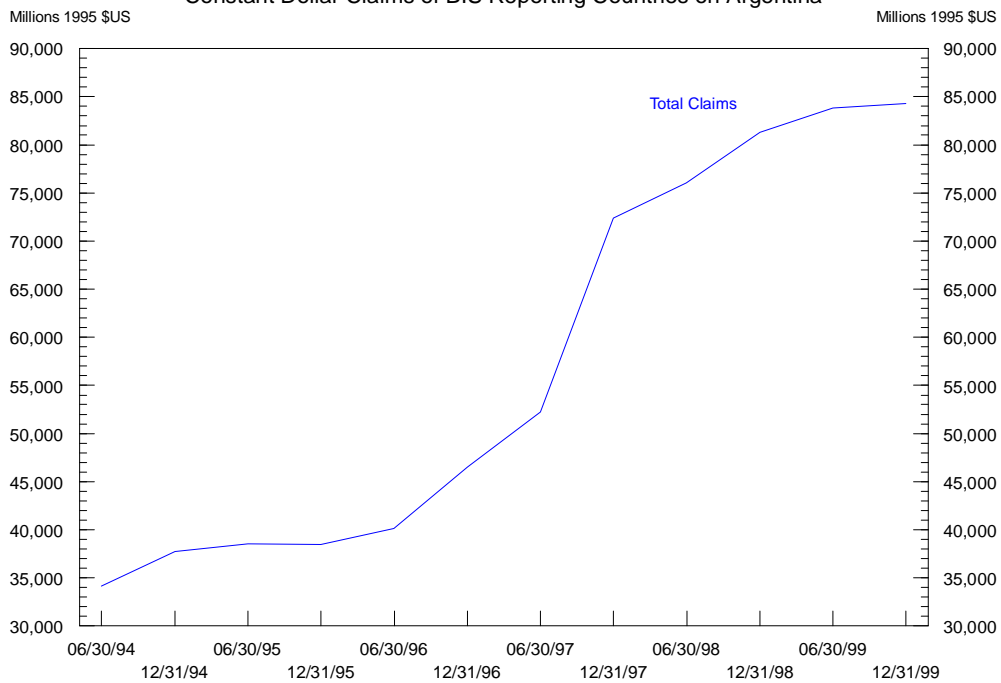
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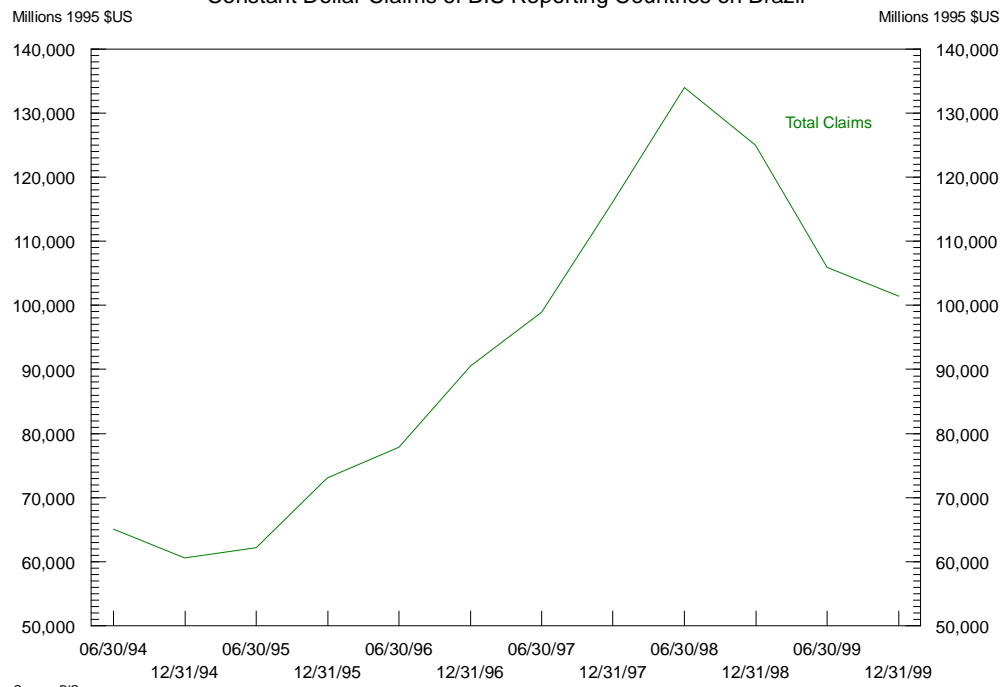
Figure 1

Constant Dollar Claims of BIS Reporting Countries on Argentina



Source: BIS

Figure 2
Constant Dollar Claims of BIS Reporting Countries on Brazil



Source: BIS

Figure 3
Constant Dollar Claims of BIS Reporting Countries on Mexico

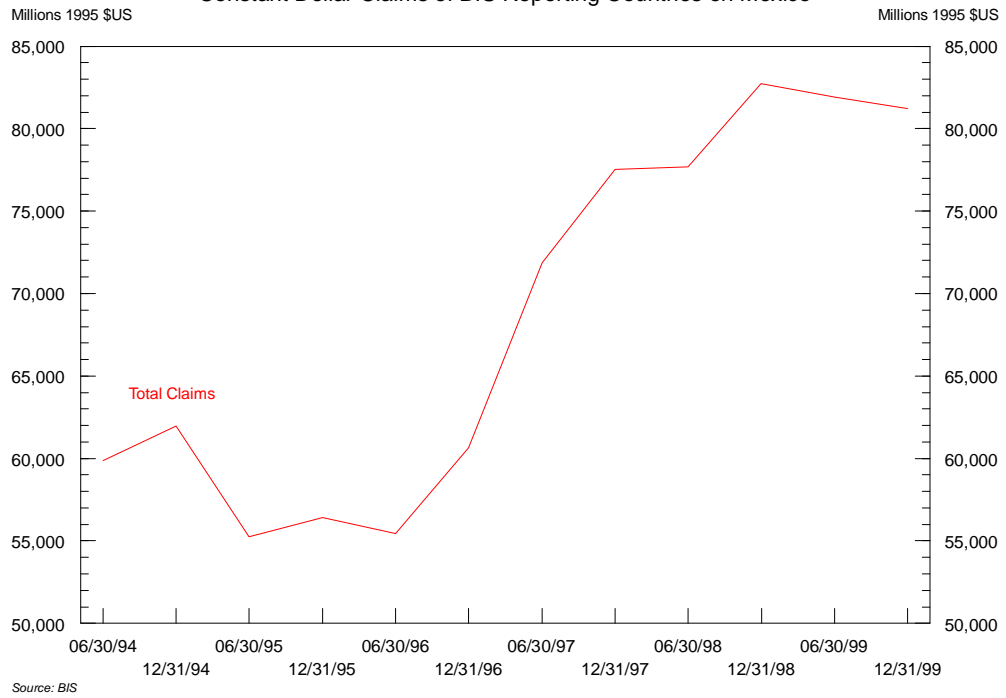


Table 1
Measures of Foreign Penetration

Argentina								
	Annual				Semiannual			
	Dec 1994	Dec 1995	Dec 1996	Dec 1997	June 1998	Dec 1998	June 1999	Dec 1999
(Millions of Pesos)								
Broad Claims	46.3	45.1	50.2	56.1	55.5	55.7	56.7	57.5
Narrow Claims	13.0	18.5	27.7	39.6	47.5	40.7	45.1	42.9
Broad Deposit	15.1	20.4	28.7	40.1	47.4	44.6	45.3	46.9
Narrow Deposit	16.9	21.2	27.4	35.5	39.4	39.5	40.9	42.0
Brazil								
	Annual				Semiannual			
	Dec 1994	Dec 1995	Dec 1996	Dec 1997	June 1998	Dec 1998	June 1999	Dec 1999
(Millions of Reais)								
Broad Claims	18.0	21.0	23.5	29.8	32.3	31.6	36.1	36.1
Narrow Claims	6.5	6.4	11.0	19.1	21.5	21.4	23.2	25.2
Broad Deposit	6.1	5.8	10.1	16.5	19.9	19.3	21.4	23.3
Narrow Deposit	5.8	5.4	5.6	9.6	14.0	14.2	14.9	15.6
Mexico								
	Annual				Semiannual			
	Dec 1994	Dec 1995	Dec 1996	Dec 1997	June 1998	Dec 1998	June 1999	Dec 1999
(Millions of Pesos)								
Broad Claims	31.3	33.0	35.6	41.3	45.9	46.4	47.2	45.8
Narrow Claims	1.0	2.4	16.8	17.5	20.5	20.3	23.0	22.7
Broad Deposit	0.9	2.0	17.5	17.2	20.7	21.2	22.6	22.8
Narrow Deposit	0.7	1.7	17.3	16.8	20.8	21.5	23.3	24.1

Table 2
Total Claims by Category of Commercial Bank (Millions of Pesos)

ARGENTINA								
Total Claims	Annual			Semi-Annual				
	Dec 1994	Dec 1995	Dec 1996	Dec 1997	June 1998	Dec 1998	June 1999	Dec 1999
Foreign Subs Reporting	6,258	10,557	16,396	35,818	54,004	41,950	51,331	46,449
Foreign Subs NonReporting	122	170	2,971	4,183	4,081	3,856	3,890	3,630
Foreign NonSubs Reporting	30,545	28,225	31,600	37,725	22,074	38,033	32,765	40,029
Domestically Owned State Banks	21,403	21,825	22,105	37,478	39,558	43,229	44,272	44,975
Domestically Owned Private Banks	21,398	25,573	28,453	23,420	24,769	23,497	23,006	21,613
Broad Deposits	Annual			Semi-Annual				
	Dec 1994	Dec 1995	Dec 1996	Dec 1997	June 1998	Dec 1998	June 1999	Dec 1999
Foreign Subs Reporting	5,855	10,165	15,602	34,412	51,126	43,956	46,903	48,007
Foreign Subs NonReporting	96	115	2,232	3,371	3,272	3,192	3,218	3,057
Domestically Owned State Banks	15,142	15,934	17,063	33,839	36,888	37,745	38,594	38,512
Domestically Owned Private Banks	18,212	24,068	27,270	22,657	23,469	20,847	21,875	19,391

Note: Foreign ownership determined by greater than 50 percent control.

Table 3
Total Claims by Category of Commercial Bank (Millions of Reais)

BRAZIL								
Total Claims	Annual			Semi-Annual				
	Dec 1994	Dec 1995	Dec 1996	Dec 1997	June 1998	Dec 1998	June 1999	Dec 1999
Foreign Subs Reporting	14,764	17,294	36,884	66,208	81,441	84,079	95,837	105,508
Foreign Subs NonReporting	1,511	1,374	3,874	15,726	16,894	8,980	9,662	12,815
Foreign NonSubs Reporting	35,348	54,429	60,370	65,683	73,510	64,516	92,084	80,571
Domestically Owned State Banks	141,316	154,754	170,262	161,093	163,944	162,031	159,142	154,774
Domestically Owned Private Banks	94,086	120,292	158,598	186,739	196,000	179,835	190,348	196,647
Broad Deposits	Annual			Semi-Annual				
	Dec 1994	Dec 1995	Dec 1996	Dec 1997	June 1998	Dec 1998	June 1999	Dec 1999
Foreign Subs Reporting	11,722	14,137	30,097	53,109	63,686	62,288	70,021	77,574
Foreign Subs NonReporting	1,234	1,081	3,032	13,995	14,524	8,890	9,430	12,269
Domestically Owned State Banks	121,996	141,661	155,836	173,404	140,296	138,599	133,479	129,443
Domestically Owned Private Banks	78,989	104,925	140,770	166,562	174,024	159,267	158,524	166,393

Note: Foreign ownership determined by greater than 50 percent control.

Table 4
Total Claims by Category of Commercial Bank (Millions of Pesos)

MEXICO								
Total Claims	Annual			Semi-Annual				
	Dec 1994	Dec 1995	Dec 1996	Dec 1997	June 1998	Dec 1998	June 1999	Dec 1999
Foreign Subs Reporting	7,033	20,994	140,216	148,432	169,500	193,756	217,546	198,546
Foreign Subs NonReporting	0	0	0	0	0	0	0	0
Foreign NonSubs Reporting	314,728	412,983	352,690	486,721	530,266	612,333	565,178	594,873
Domestically Owned State Banks	0	0	0	0	0	0	0	0
Domestically Owned Private Banks	706,311	881,084	935,745	900,880	863,569	970,163	871,946	852,754
Broad Deposits	Annual			Semi-Annual				
	Dec 1994	Dec 1995	Dec 1996	Dec 1997	June 1998	Dec 1998	June 1999	Dec 1999
Foreign Subs Reporting	6,068	16,470	133,443	140,437	179,122	206,193	236,292	226,498
Foreign Subs NonReporting	0	0	0	0	0	0	0	0
Domestically Owned State Banks	0	0	0	0	0	0	0	0
Domestically Owned Private Banks	643,379	798,837	843,653	871,582	870,979	948,326	944,097	923,410

Note: Foreign ownership determined by greater than 50 percent control.

Footnotes

1. Our data include only 16 of the 18 reporting countries. Switzerland and Luxembourg are omitted because they provide data only on a confidential basis. The BIS also has a quarterly series, although it does not include coverage on a worldwide consolidated basis, and an interbank series, which provides bank claims on related offices of the same institution and those on unrelated banks.
2. It can be difficult to obtain precise foreign ownership stakes because banks often have tiered ownership. A 50 percent ownership stake should generally provide control, but because of the various classes of shares and the tiering of shareholding, foreign control is not a straightforward calculation. Frequently, alternative sources indicate different foreign ownership stakes for a given bank at a given point in time. Where possible, we have used government sources or bank web sites when sources disagreed. However, this highlights the difficulty in calculating penetration using a single source for foreign ownership stakes. Note that a bank with less than 100 percent ownership of a subsidiary, but greater than a 50 percent ownership stake, includes 100 percent of the claims of the bank subsidiary in its cross-border claims reported to the BIS.
3. The government-owned bank category includes banks that are intentionally owned by the government and does not include bridge banks that are temporarily controlled by the government because a private bank fails. Bridge banks are assumed to retain their previous status while the government is searching for a buyer. Generally, these would be privately owned domestic banks that are temporarily controlled by the government until a foreign or domestic acquirer is found.
4. Foreign nonsubsidiary claims are calculated as total BIS claims minus claims of foreign bank subsidiaries (defined as those with at least a 50 percent foreign ownership stake).



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Jornadas Monetarias y Bancarias, 2000

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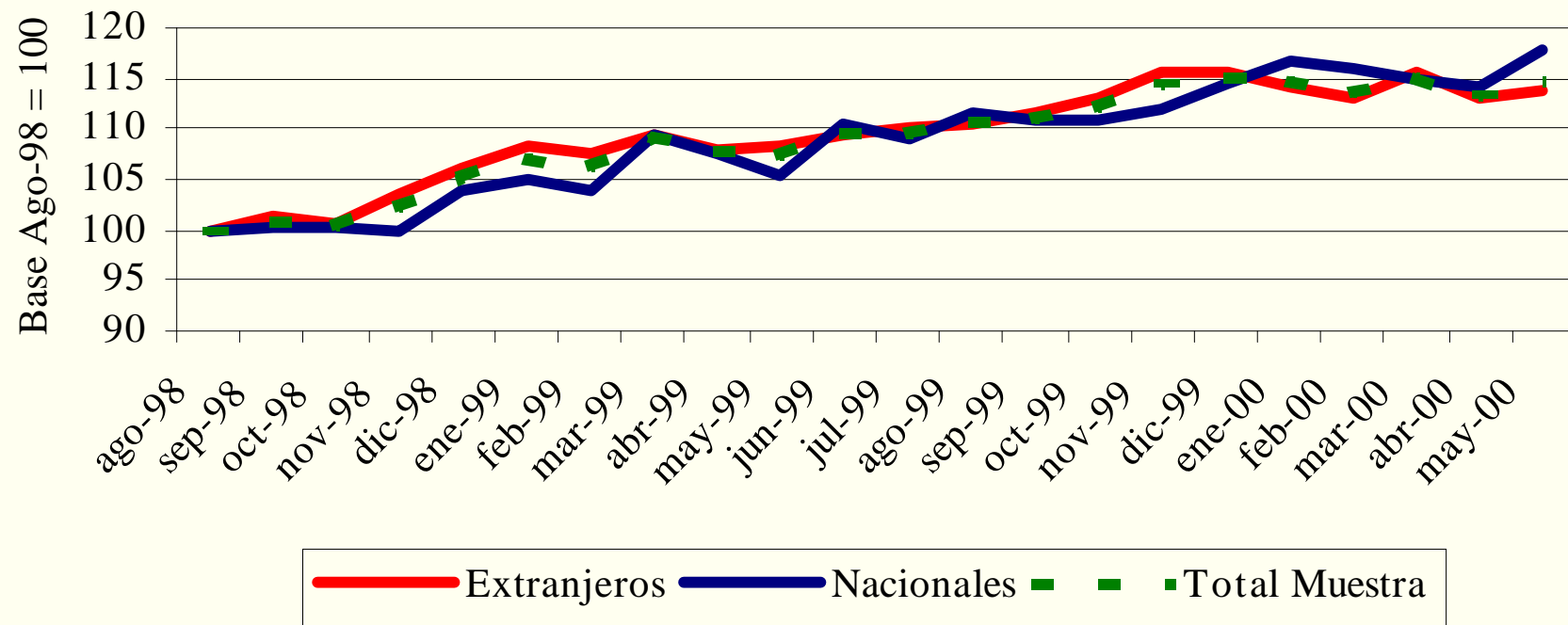
The role of foreign banks in Latin America

24 de Agosto de 2000

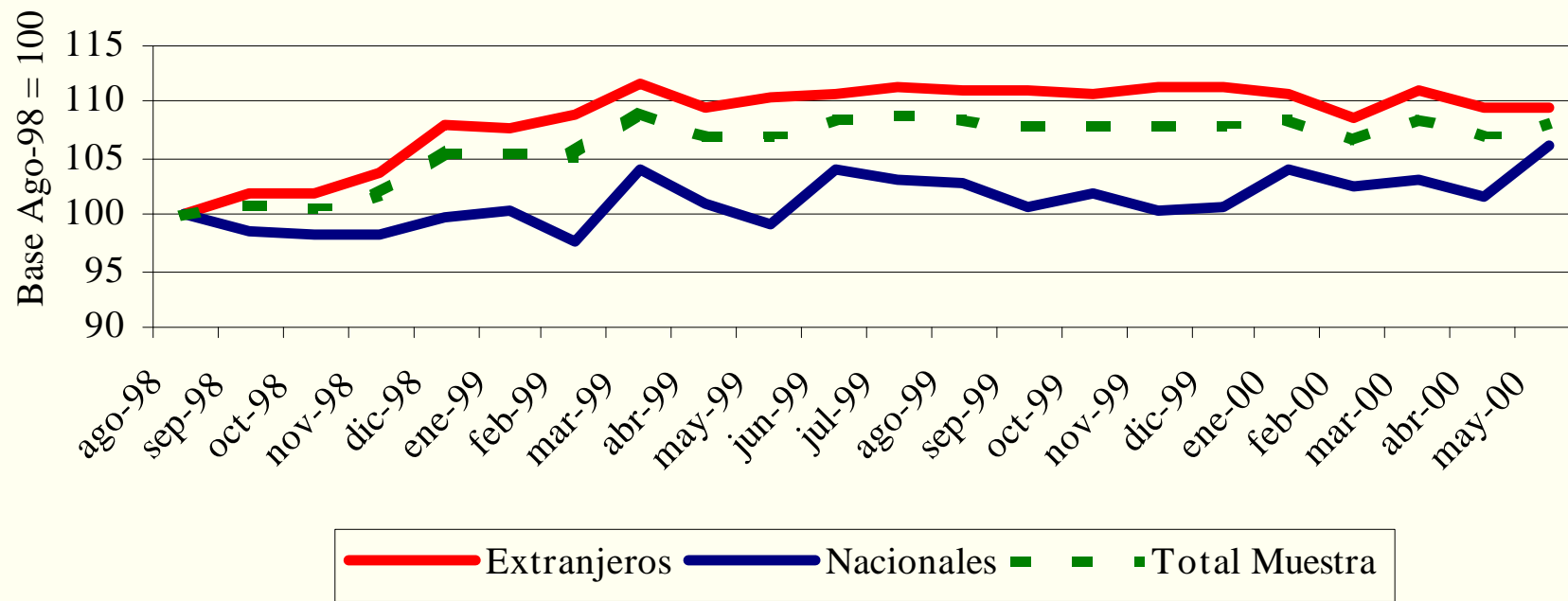
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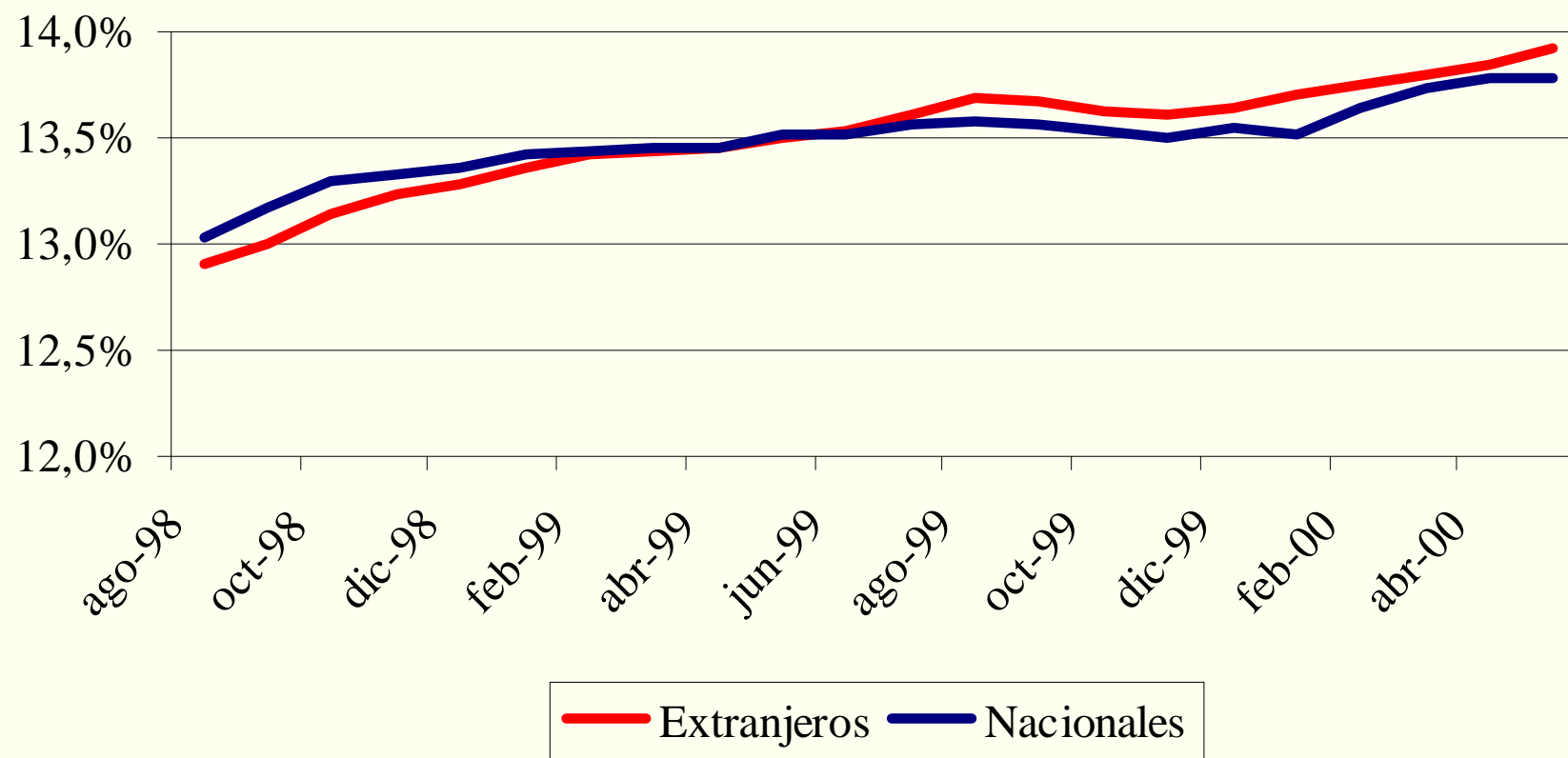
Préstamos Capiales Comparación entre Nacionales y Extranjeros



Préstamos al Sector Privado no Financiero - Capitales Comparación entre Nacionales y Extranjeros



Tasa Activa Implícita (*)



(*) Intereses por Préstamos (flujos últimos 12 meses) / Préstamos Capitales (promedio últimos 12 meses). Agregados para las entidades de cada grupo.



Banco Central de la República Argentina

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Andrew Powell

Safety first monetary and financial policies for
emerging economics

24 de Agosto de 2000

**Safety First Monetary and Financial Policies for
Emerging Economies**

Andrew Powell

**Chief Economist
Central Bank of Argentina**

**Prepared for
IMF MEA Conference**

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1) Introduction

Recent crises have highlighted the need for countries to adopt safety-first strategies rather than adopting strategies that might maximise short-term growth. In this paper, I consider three central policy areas, (i) exchange rate regimes, (ii) liquidity policies and (iii) banking sector policies in an attempt to define what safety-first strategies might look like. These are in themselves three very broad areas and consequently the treatment is highly selective. Moreover, in each area there is already a substantial literature. Hence, once again selectivity wins over comprehensiveness in an attempt to add value.

With respect to exchange rates, I briefly summarise, somewhat subjectively, the recent history of thought. The debate between fixed versus float rages on, but a more effective approach, at least for the official community, would be to seek a set of standards for exchange rate management. This is no easy task as here there is probably also no consensus, but to provoke discussion I provide a very schematic attempt.

Emerging countries face many difficult trade-offs and one very clear one is that with respect to their liquidity positions. In the second section, I argue that due to the much tighter trade-off between monetary and financial stability for emerging countries, a strong liquidity position is a must irrespective of the exchange rate regime in place. I present some figures for different countries on their actual liquidity positions but also make some comments regarding the efficacy of the (recently available) public data. A strong liquidity position, however, has direct costs and may imply less domestic credit. In the final part of this section, I then discuss the role of the multilateral agencies in complementing a strong national liquidity policy – that assuages moral hazard concerns. This potential role for the IMF and the MDB's is introduced to provoke discussion as, although in practice these agencies are indeed fulfilling this role, there appears to be no clear framework under which they are operating at the current time¹.

In the third section I focus on the banking sector. Here there has been so much general material written and so many 'standards' now developed that I restrict comments to the experience in Argentina in implementing the BASIC framework for banking oversight which attempts to employ both traditional banking regulation and supervision with some innovative techniques to enhance market monitoring and discipline. Section four concludes.

2) Fixed versus float, again

Despite a substantial literature devoted to the topic of the appropriate choice of exchange rate regime, the issue remains as unresolved and controversial as ever. Indeed, writing as of today it appears that the debate, helped by history and circumstance, has come full circle. In this section I present a somewhat subjective review of where we are and an appeal on how the future debate could be structured. To arrive at this point, however, some history is useful.

¹ MDB's refers to the Multilateral Development Banks e.g.: the World Bank and the regional development banks.

On the death of fixed rates

During most of Bretton Woods, the general sentiment was that fixing, with some measure of capital controls, was superior to floating. The argument was normally couched in terms of the potential volatility of a floating rate regime - reflecting the experience of the inter-war period. An often-cited early exception was Friedman (1953) who argued for a floating rate suggesting, for example, that the market would most likely do a better job than a set of bureaucrats in finding the appropriate level for such a fundamental price².

As the system came under strain, it also became increasingly apparent that fixed rates, coupled with domestic price rigidities, implied costly adjustment to real shocks. This observation set in motion a train of thought, which resulted in, what now might be referred to as a set of traditional arguments to determine the optimality of fixed or floating rates³. Mundell himself was unconvinced that floating rates would make the world better off but attempted to elucidate the conditions under which this might be case. In one of the great ironies of economics his conditions have generally been used by those in favour of floating rates to argue against fixed! Among other arguments, Mundell claimed that the extra dimension of 'flexibility' that some assumed would be present under floating was illusory and furthermore he considered that many of the underlying assumptions of his model were likely to be invalid. For example, his model assumed price rigidities and factor immobility which he considered very strong indeed. His view was that such rigidities were likely to be endogenous to the monetary regime in place in the sense that if the price of money was fixed, then other prices would become more flexible and factors would become more mobile. However, the break-up of Bretton Woods demonstrated the potential problems of fixed regimes subject to large external shocks and unconvincing domestic discipline.

On intermediate regimes

After Bretton Woods, floating rates (as suggested by the inter-war experience) also appeared to policy makers be 'too volatile' given fundamentals. The different attempts to stabilise "G5" rates (e.g.: the Plaza Accord of Sept. 1985 where the US, UK France Germany and Japan agreed exchange rate targets and the Louvre Accord of February 1987 with the same G5 plus Canada) can be seen, to varying degrees, as manifestations of the dissatisfaction of floating rates in a world in which trade had grown substantially. However, the October 1987 stock market crash (which some blamed on an "uncoordinated" German interest rate rise), and the Fed's swift action to ensure sufficient banking sector liquidity led to a dollar depreciation beyond the 'Louvre' limits and subsequent zones (implicit rather than explicit) appeared then to have little effect⁴.

² Friedman, M. (1953) 'The case for flexible exchange rates' Essays in Positive Economics, Chicago Press.

³ See Mundell (1961) 'A theory of optimum currency areas' American Economic Review, 51, pp657-65, Mundell (1971) "Monetary Theory", the second part discusses problems in monetary system in late Bretton Woods, Mckinnon R. (1963), "Optimum Currency Areas" American Economic Review 53, pp717-724, Poole (1970) etc.

⁴ In the next section I discuss the tension between monetary and financial stability and ways to break (i.e.: improve) the trade-off.

During this period, the perceived "excess volatility" of floating rates led some to propose 'intermediate solutions'. The idea was that these intermediate systems might capture the benefits in terms of the flexibility of floating rates, letting the market function to some extent to find the 'right level' but, at the same time, controlling the 'excessive volatility' that appeared to follow from pure floating⁵. The various stages of European monetary arrangements can also be seen as reflecting the dissatisfaction with volatile floating rates within the context of developing a single market. The development of the ERM might be regarded of as one of the most highly developed intermediate solutions; a self-adjusting band depending on the movement of its member currencies with relatively frequent realignments – at least in its earlier, softer guise. At the same time, many developing countries adopted intermediate solutions including pegged rates, crawling pegs and crawling bands – Williamson and Miller's favoured regime.

However, once again history intervened. The breakdown of the Exchange Rate Mechanism (ERM) of the European Monetary System (EMS) in September 1992, the Mexican devaluation of December 1994, the South East Asian devaluations in 1997/8 and the Brazilian devaluation of 1999, forced a fundamental re-examination of the vulnerability of such intermediate systems to speculative attack and more generally of the sustainability of pegged rates not supported by appropriate monetary rules. In part this was seen as a consequence of the enormous growth in capital flows and their potential to render central bank interventions to maintain a fixed rate as futile⁶. As a consequence of this quite extraordinary period of forced floating, a growing voice was heard in favour of the 'corner solutions'. The corners were considered as either a relatively pure float or a very firm fix backed by a currency board (to ensure a monetary rule consistent with the fixed rate) or even monetary union.

On the 'corner solution'

Several European countries chose one corner solution - full monetary union⁷. Although the adoption of EMU clearly reflected political aims, at the same time it reflected the idea that while the lighter discipline of ERM proved to be unsustainable, the harder disciplining force of monetary union would bring the reforms necessary to make the system dynamically stable. Indeed, the Maastricht convergence criteria appeared to set in motion a virtuous circle whereby policy makers let themselves be judged according to those criteria and the markets judged policy makers by whether their country would comply or not. This set in place strong incentives for reform and those reforms were rewarded by lower interest rates making convergence easier.

⁵ See for example, Williamson and Miller (1987), *Targets and Indicators: A blueprint for the international co-ordination of macroeconomic policies. Policy Analyses in International Economics*, 22, Institute for International Economics, Washington DC.

⁶ The author remembers one US official noting that the US intervention to stem the fall of the yen was considered as highly successful and changed the course on the dollar/yen rate for at least a couple of hours! Mexican officials have stated on many occasions that they did not chose to float in December 1994, but had to as they effectively ran out of reserves.

⁷ Of course the Euro floats against other non-member currencies, what I refer to here is the total fix of the minor European currencies against the Euro 'basket'.

But the advice stemming from Washington towards emerging countries appeared to favour the floating end of the spectrum. Although the corner solution theory appeared in many discussions and speeches, the flexible corner appeared to be shouted loudly while the fixed corner tended to be whispered softly - to be recommended only in some particular cases. The G22 document on International Financial Crises is a good example in this regard and the emphasis is also noticeable in the recent paper from the Fund staff Mussa et al (2000) - required reading for all interested in exchange rate management issues⁸. Apart from Europe, which appeared to be heading in the opposite direction and a small group of currency board countries (e.g.: Argentina, Bulgaria, Estonia, Hong Kong, Latvia and Lithuania), the conventional wisdom appeared to be floating rates coupled with some method of conveying how (independent) monetary policy would be conducted e.g.: through an inflation targeting regime.

This system has been formally adopted by several industrialised countries (e.g.: the UK, New Zealand etc.) and also by some emerging countries (notably Brazil, Chile and Mexico). The proponents of this type of regime suggest that the inflation targeting regime will provide a nominal target and an accompanying 'inflation report' will provide an excellent method to convey to the markets the analysis and thinking of the central bank, but that the flexibility of the exchange rate will allow more efficient adjustment to shocks. It is probably fair to say that to date there have been some positive and negative experiences with this type of regime but that, given the limited experience, the jury is still out⁹.

One concern regarding pegged rates appeared to be the use of official (e.g.: IMF, multilateral development bank and bilateral) resources in supporting such regimes and the potential losses that then might accrue due their subsequent failures. Indeed, the US

⁸ G22 (1998) "Report of the working group on international financial crises", see p13 where the discussion on fixed rates appears to highlight the weaknesses e.g.: "... a sustainable commitment to a relatively rigid exchange rate requires a corresponding commitment to strong monetary and fiscal policies and an appropriate arrangement for regulating financial institutions. In a rigid exchange rate regime, a decline in demand for domestic financial instruments can bring a country's hard currency reserves under pressure" whereas on floating rates it appears to highlight the benefits, "...flexible rates explicitly introduce two way risk, and consequently, can help prevent the accumulation of excessive foreign currency liquidity mismatches and unhedged currency exposure. Flexible exchange rate regimes can also allow for greater macroeconomic policy flexibility than do more rigid exchange rate regimes...". Mussa, M. P Mason, A Swoboda, E. Jadresic, P Mauro and A Berg (2000) "Exchange rate regimes in an increasingly integrated world", advanced copy, IMF April. 2000. also stress the 'corner solution' but in similar vein to G22 (1998) the tone appears to favour the floating end of the spectrum thus they state in the III E. Conclusions, p60, "First, for most emerging market countries, primarily in Asia and Latin America (but also South Africa and some countries in Easter Europe), floating exchange rate regimes appear to be the increasingly relevant choice".

⁹ The experience of the UK deserves significant attention. On the one hand the system has been highlighted as a model in terms of the design of the regime and its transparency and yet on the other hand the UK has suffered significant exchange rate volatility. Eddie George is reported to have stated recently to a Treasury select committee that the pound was "grossly" or "enormously" over-valued against the Euro. Susil Wadwhani (a member of the UK's Monetary Policy Committee) apparently likened the foreign exchange market to a "herd of cows" and in defence of intervention suggested that it could act akin to some dogs that might be able to "steer a few cows in a particular direction". Both quotes come from FT 24/5/00, page 11 (New York edition), by Ed Crooks economic editor. In contrast, on the whole, the Chilean peso has suffered surprisingly volatility considering the size of shocks received - I discuss below interpretations of low volatility in emerging exchange rates.

Treasury secretary has stated explicitly that the IMF should not finance unsustainable fixed rates. This concern appears closely related to the more general ‘moral hazard’ debate. On the one hand, there might be a perception that if relatively soft multilateral money is available to finance pegged rates then countries may have reduced incentives to ‘do what it takes’ themselves to ensure the sustainability of the policy regime. Secondly, the private sector might expect the Fund or others to always continue to provide reserves to finance the fixed rate. This concern is clearly somewhat different from the question whether a fixed or a floating rate regime, correctly designed and implemented, is superior or safer for emerging countries. However, a fixed rate supported by a very clear rule, such as a currency board, and supported by a comprehensive liquidity policy (as discussed in the next section) should help to alleviate such concerns.

The ‘corner solution’ debate is very much a hark back to the old debate regarding fixed or monetary union versus floating. What has changed perhaps is the perceived nature of the shocks. During the Bretton Woods era trade had grown substantially and those that argued in favour of floating rates stressed that asymmetric trade shocks implied that fixed rates or monetary unions would be sub-optimal. In the 1990’s financial flows grew enormously and today the focus is on both trade and financial shocks. A now standard argument is that Mundell inspired models should be updated to include potential financial shocks for those countries that receive substantial capital flows and have considerable international debt¹⁰.

On dollarisation

A distinct group of economists remains sceptical of the standard Washington advice to emerging countries¹¹. Indeed, this group appears to favour not only a hard fix but possibly even full monetary union with a hard currency, or “dollarization”. While the floaters tend to emphasise the potential dangers of unsustainable pegs, the valid use of exchange rate depreciation as a type of ‘safety valve’ and the benefits of “extra flexibility” that floating brings, this group tends to stress the disciplining effect of truly fixed rates and the difficulties emerging countries might have in pursuing an independent monetary policy and hence gaining the advertised “flexibility” of floating rates. In particular, they have pointed to the very different way in which emerging countries appear to float relative to G10 countries i.e.: with much lower exchange rate volatility and higher reserve or interest rate volatility. And they suggest that the high degree of de facto dollarization in emerging countries is both a potential explanation for this revealed preference on how floating occurs (i.e.: through greater interest rate adjustment and less currency adjustment) and also implies that the safety valve view of a depreciation might come at such a cost that it is not a safety-valve at all. Moreover, they tend to suggest that fixing to a hard currency will reduce prudential risks (such as maturity or currency mismatches – see next section) and hence reduce credit spreads in

¹⁰ See for example Calvo (1999) “Capital markets and the exchange rate” for arguments and analytics in this vein: available on <http://www.bsos.umd.edu/econ/ciecalvo.htm>.

¹¹ In this group I would include for example Robert Barro, Guillermo Calvo, Richard Cooper and Ricardo Hausmann.

dollars making financing cheaper, and increase trade and financial integration and growth¹².

Inconclusive empirical studies

Given the rich experiences of many countries with different exchange rate, it might be thought that there would be clear empirical evidence on which regime results in better and safer economic performance. However, such studies have tended to give surprisingly inconclusive results. These results have been obtained depending on different samples and different specifications and with varied attempts to control for other cross-country variations. While some early studies showed, for example, that the volatility of real exchange rates was higher under flexible and that inflation was higher under flexible, others have found insignificant differences. In general there appears to be little significant evidence either way relating the choice of exchange rate regime to economic growth or other economic variables¹³.

Is there a clear trend towards floating rates ?

Intermediate solutions appear to have lost considerable ground in the academic ‘corner solution’ debate. However, in practice, it is striking to note that there are still a number of countries that remain in the middle ground - including pegged rates without the backing of a currency board or crawling pegs or bands. Moreover, comparing the number of countries with floating, fixed and intermediate it is not obvious that there is currently a strong trend towards the corners nor towards floating the floating corner in particular.

In Table 1, I give statistics based on IMF data using the 1999 IFS classifications (but aggregating them into 1. Fixed: no separate legal tender or currency board, 2. Intermediate: other pegged, pegged within bands, crawling pegs or crawling bands and 3. Float: managed float and independently float and re-classifying the 1995 IFS categories as closely as possible along similar lines). In the appendix to the paper I provide the classification of countries adopted.

Curiously, comparing 1995 to 1999, there appear to be fewer countries now with floating rates than in 1995 and more countries adopting intermediate systems or hard fixes. Naturally this analysis is based on a simple comparison of two dates and the

¹² See for example Calvo, G. and C. Reinhart (1999) “Fear of floating”, mimeo. University of Maryland and Hausmann, Panizza and Stein (1999) “Why do countries float the way they float?” mimeo, Inter American Development Bank. Interestingly in Mussa et al (2000), the authors appear to chastise emerging country floaters for not letting exchange rates float enough, expounding the theory that an exchange rate with some volatility will lead to greater incentives to hedge and hence if there is then a wild exchange rate move as more agents will be hedged this will be less costly. However, pursuing the arguments of Hausmann et al. the lack of hedging may be only partly related to the lack of demand but may be also very much related to a lack of supply of hedging possibilities. The counter argument is then that given the substantially higher cost for emerging countries to issue debt in domestic currency (see next section), it is likely such systemic foreign exchange hedging will also be highly costly if feasible at all at any significant maturity.

¹³ See for example Ghosh, A. A. Gulde, J. Ostry and H. Wolf, (1997) “Does the nominal exchange rate regime matter” NBER Working Paper No. 5874, January and Quirk, P.J. (1994) exchange rate regimes: does it matter for inflation?”IMF Working Paper 94/134, Nov.

numbers presented are simple sums (not GDP weighted etc). However, I have also attempted to be fair towards the “pro-floaters” in that the EMU countries are counted as fixed in both 1995 and 1999. Treating several EMU countries as fixed in 1999 but intermediate in 1995, would tilt the results further towards more countries adopting fixed rates (and would have an effect on any GDP weighting results too).

The idea of including this Table is not to make too much of the apparent trend towards intermediate or fixed systems but rather to state that it is not so obvious that there is a strong trend towards the corners or floating. In view of this, it is not so surprising that some have expounded more compromising views on exchange rate regimes. There are several ways in which compromise positions might be presented.

Table 1

Exchange Rate Regimes				
(Author's classification following IMF Data, IFS 1995 & 1999)				
	1995	1999		
			1995	1999
Fixed¹	42	46	23.2%	24.9%
Intermediate	47	62	26.0%	33.5%
Float	92	77	50.8%	41.6%
Total	181 ²	185	100%	100%

1- We include the 11 Euroland countries in both columns

2- In IFS includes 179 countries, we include Hong Kong and Brunei Darusslam

On compromise positions

One compromise position is that there is good and bad fix, good and bad float and even good and bad mixed cases. The real point of those that take this position is that the exchange rate regime is only of secondary importance. More important is the right set of supporting macroeconomic and other policies. For example, if the fiscal position is cautious, debt levels are not too high, debt maturities not too short, banking systems are strong and prices reasonably flexible then perhaps the choice of exchange rate regime matters less. Whatever exchange rate regime is it will be a success. This argument, although highly diplomatic, appears to be ducking the issue. While it is most certainly true that there is surely good and bad fix and good and bad float, it seems likely that there is a possible ordering between good float and good fix as well.

A second compromise position is that the choice of regime depends on particular country characteristics. This might lead to hard fix, pure float or indeed even some intermediary solution given particular circumstances and, perhaps, as a transition phase to another regime. The question is then what are these particular characteristics and to what extent are they really exogenous. I will come back to some characteristics of emerging countries and their implications below.

Towards a ‘standards’ approach

Academics tend to make a name by taking extreme positions and hence it is not surprising that there are strong divisions between those favouring purely floating rates perhaps with an inflation targeting system to tie down expectations and those favouring firmly fixed rates through currency board arrangements or even full monetary union or “dollarization”. In my view, however it is time to initiate a new debate; perhaps one that will win fewer headlines but is consistent with approaches elsewhere. This, third compromise position would take seriously the official position of the IMF that the choice of exchange rate regime is a sovereign decision of each country. Starting from this standpoint, the obvious way forward is then to seek a set of consistent rules or ‘standards’ regarding exchange rate management. This would officially endorse different exchange rate arrangements but would establish a set of guidelines such that inconsistencies between the exchange rate system and the monetary policy rule (or other aspects of policy) would be ruled out.

Here the obvious starting point is the old adage that countries can only chose between two of the following (1) a fixed exchange rate (2) an independent monetary policy and (3) an open capital account. Thus countries that adopt fixed exchange rates and where the capital account is relatively open should adopt a fixed monetary rule such as a currency board mechanism. On the other hand, the rule implies that countries that are prepared to maintain relatively closed capital accounts may be able to find a combination of a pegged rate and some monetary independence.

More controversially, Cooper (1999) proposes that there is a potential inconsistency between (1) floating exchange rates, (2) independent monetary policy and (3) open capital accounts – at least for countries with small and poorly developed domestic capital markets i.e.: most emerging countries. Cooper’s argument is essentially that shifts in sentiment, or even worse, a single speculator might move an exchange rate sufficiently to start an unstable dynamic in a country with such characteristics. If the central bank accommodates the move then the process may lead to many different equilibria, some with huge exchange rate swings and consequent effects on monetary and price stability. If the Central Bank does not and, for example, attempts to defend an inflation target, in a small open economy where there is presumably significant pass-through, then a familiar game between the resolve of the central bank to defend a target and that of the market, betting that it will at some point give way, will ensue. To a significant degree this game may have similarities to the defence of an exchange rate peg/band. As Cooper states this implies that there may be a strong tension between the two prescriptions regularly extended to emerging countries by the official community; to reduce capital account restrictions and to adopt floating exchange rates. One interpretation of the Cooper (1999) view is that countries that wish to float need to drive some type of wedge between domestic and foreign financial assets, to give domestic monetary policy some bite. A tax on capital imports for example might be such a policy intervention along these lines. However, naturally there would be a cost to pay for such a policy in an emerging country, which needed foreign capital. The other corner solution would be a firm commitment to a fixed rate through a currency board or even

full monetary union under which case the country might be able to have a fully open capital account.

A set of detailed standards is clearly well-beyond the scope of this paper and a set of highly detailed standards might require several hundreds of pages depending on the detail entered. However, a set of simple consistent rules certainly does not seem beyond the bounds of possibility. To provoke discussion, I present in Table 2 a very schematic outline of what some very basic rules might look like for fixed versus floating exchange rates. In the case of fixed exchange rates the rules, I would advocate, are relatively clear. If a country wishes to have a fixed exchange rate and a completely open capital account, then monetary policy must be tied precisely to maintaining the exchange rate target. In this case a currency board or even full monetary union or 'dollarization' are to be recommended. In the next section I discuss further liability management strategies. Here, suffice to say that if a currency board or monetary union is adopted then a consistent liability management strategy is to seek to minimise liquidity risks by issuing long term as currency risks (from issuing in foreign currency) are less important.

If, however, the country in question wishes to impose capital account restrictions, then this might allow a fixed rate with some minor degree of flexibility in monetary management. I do not go into detail here as to how this monetary flexibility might be conducted. However, it is absolutely paramount that the authorities should communicate to the market the rules for such monetary management and put in place safeguards to ensure that monetary policy remains overall consistent with the exchange rate stance.

Table 2: Standards for exchange rate management

Exchange rate regime, capital account interventions, monetary policy rule, and liability management strategy.

Fixed Exchange Rate Strategies

Fully open capital account

Currency board, monetary union or similar

Liability management strategy to reduce liquidity risks through seeking longer maturities in foreign

Capital import taxes or other capital account interventions

Pegged rate with minor monetary flexibility

Need for authorities to communicate to the market monetary policy objectives and ensure consistency of overall policy stance.

Floating exchange rate strategies

Fully open capital account

Need for authorities to communicate to the market monetary policy objectives through an inflation targeting system or otherwise.

Need to ensure the widest feasible availability of hedging instruments.

Need to develop contingency plans (including monetary policy and banking sector responses) for periods of high exchange rate volatility and potentially unstable exchange rate dynamics especially if balance sheet effects of exchange rate movements are significant.

Liability management strategy mixed, trade-off between degree of 'dollarization' and liquidity risks.

Capital import taxes or other strong capital account interventions

Need for authorities to communicate to the market monetary policy objectives through an inflation targeting system or otherwise and ensure consistency of overall policy stance.

NB: all countries should develop a set of sound financial and especially banking regulations and emerging countries, irrespective of the exchange rate regime, should develop a systemic liquidity policy.

In thinking about this table, perhaps the more interesting question is what supporting policies countries may need to pursue if they adopt floating exchange rates. First let us consider the case of a fully open capital account. First, it is in the view of the author, to be highly recommended that the authorities communicate to the market how monetary policy will be conducted through an inflation target or otherwise to ensure that the economy has some nominal anchor. Second, given the experience of G10 countries' floating rates it would certainly be advisable for non-G10 countries to attempt to develop markets in vehicles for foreign currency hedging. However, the author remains suspicious that an emerging country that has a very steep yield curve in domestic currency and which (therefore) issues very little foreign debt in domestic currency that it will really be feasible to develop a liquid market for hedging medium term currency risks. If this view is correct then the country in question may also need to develop a contingency plan for periods of high exchange rate volatility. This will be an especial need in the case of countries that have significant currency mismatches in the public sector, in the financial sector or in the non-financial private sector. As discussed above, there is a growing literature that has come to the opinion that floating emerging countries in fact do not float in the manner that say G3 exchange rates float as emerging countries that suffer from such currency mismatches would face very severe financial problems. If this is the case then these 'floaters' may not be gaining the advantages from floating even though they have ostensibly adopted floating rates. The above suggestion is then closely related to this view: ie: that countries may need to develop

strategies that would really allow such countries to truly float. As discussed further in the next section, an emerging country that attempts to adopt a floating exchange rate with an independent monetary policy will in general wish to develop a mixed liability management strategy which trades off currency risk concerns with liquidity risks concerns. In other words, while issuing longer term in foreign currency will reduce liquidity risks it will also increase currency risks. However, issuing too much debt in local currency will (all things being equal) increase liquidity risks. We also note that having too much debt in foreign currency or having too much short term debt will both complicate domestic monetary control. There are then a set of complex trade-offs for liability management in this regime.

Cooper (1999) suggests that emerging countries wishing to adopt floating rates may also need to think in terms of some capital account restrictions. Here, once again it would be imperative to communicate to the market in the clearest way possible the objectives and instruments of monetary control and similar trade-offs would be involved for liquidity management as in the case of a floating rate with an open capital account. However, in this case the assumption would be that currency volatility would be lower and hence that there might be a presumption towards lowering liquidity risks through issuing at longer terms in foreign currency.

Conclusion

The above discussion highlights the fact that history has played an important role in shaping our thinking with respect to exchange rates. Indeed it seems that whatever the dominant exchange rate arrangement in force at the time, it was deemed unsatisfactory whether this was the gold standard, floating rates between the wars, the Bretton Woods fixed rate system, post Bretton Woods floating, intermediate systems such as pegged rates or bands in Europe or in emerging countries. The trend towards floating rates has been endorsed by many official statements but at the same time the volatility of G3 rates does not bode well for emerging floaters (e.g.: the Euro has depreciated by over 25% since its inception) and, according to European policy makers, not justified by the fundamentals¹⁴. This volatility in G3 rates has been very harmful for emerging countries. At the same time emerging countries that float appear to have much lower volatility – they have a ‘fear of floating’ to use the title of Calvo and Reinhart’s paper. One interpretation is that a partially dollarized emerging country floater cannot withstand the balance sheet effects of pure floating, given the potential volatility, reducing the value of such a system.

To summarise the state of the current debate on exchange rate arrangements, it appears to remain as controversial as ever with some taking strong views towards fully fixing to pure floating. Those with more compromising souls, expound the ‘corner solution’ theory with the correct corner depending on individual country characteristics while others compromise through relegating the importance of the choice and stressing the importance of maintaining a sound general macroeconomic environment. One way

¹⁴ See recent statements by Ernst Welteke, Bundesbank President, that the markets have an erroneous impression of the fundamental improvements in Euroland and that, "the herd-like behaviour of markets can lead to a situation in which market values move away from fundamental data for a certain period...This is more than obvious at the moment in the case of the Euro's external exchange rate", quoted in "Frail Euro blamed on 'herd-like' markets" FT 23/5/2000, page 3).

forward to obtain a safety-first strategy and yet one which is acceptable to the world community would be to take seriously the IMF view that the choice of exchange rate regime should remain the choice of the country but that depending on the choice of exchange rate regime a set of supporting policies or 'standard' should be adopted. There is widespread consensus that a fixed exchange rate, an open capital account and an independent monetary policy are incompatible and hence for countries that fix but wish to have an open capital account a currency board or even 'dollarization' might be recommended. However, more controversial is the view that an independent monetary policy, a flexible exchange rate and an open capital account may also be inconsistent. In October, the G20 Ministers may make some pronouncement on this issue; the 'standards' approach would appear to be a useful way for the international community to go.

3) The link between monetary and financial stability: an emerging country perspective

In this section I attempt to consider the link between monetary and financial stability from an emerging country perspective. The main thesis in this section is that the emerging economies tend to have a much tighter trade-off between monetary and financial stability than a typical G10 country. A way of resolving this policy dilemma is to develop a systemic liquidity policy. Designing such a policy becomes somewhat similar to the traditional question, what level of international reserves should a country have? A standard response would be that this depends on the exchange rate system in place but the following discussion suggests that even in a floating exchange rate regime, emerging countries should certainly maintain higher reserves than their G10 counterparts as the trade-off between monetary and financial stability is still very real¹⁵. In practice, emerging countries do appear to heed this advice, as they do appear to hold very significant reserves (even floaters). In the first section I will consider the specific case of the banking system and then widen this to liability management more generally. I will consider a recently made available dataset to consider countries' liquidity positions but also present some purely theoretical calculations. The section finishes with brief discussion of the role of the multilaterals in complementing a domestic systemic liquidity policy.

A systemic liquidity policy for emerging country banking sectors

The trade-off between monetary and financial stability is well known in central banking circles. The normal solution to this problem is to ensure a regulatory regime that gives bankers the right incentives to control risks and to maintain adequate solvency ratios - I come back to issues regarding banking regulation below. Given the right incentives, the argument runs, on the one hand there is then little chance of a banking sector problem affecting monetary policy (through the need to inject liquidity into banks) and on the

¹⁵ The arguments presented are close to those in the recent Financial Stability Forum working group on Capital Flows, April (2000) chair, Mario Draghi and the discussion on liquidity risks in the G22 document on "Strengthening Financial Systems". However, I go further in attempting to define why a systemic liquidity policy might be required and what this might actually consist of.

other hand, if a tight monetary policy and high interest rates are required to combat rising inflation, then this will not place the banking system in jeopardy¹⁶.

However, high solvency ratios and the right incentives do not imply zero risk. Indeed, a banking system that has so much capital that it is perfectly safe is also an inefficient one. The crises in banking systems in countries with high quality levels of regulation and supervision show that real risks will remain in any country. Moreover, recent research and official advice tends to favour strictly limited deposit insurance - if explicit at all¹⁷. In this environment, monetary authorities must always be aware of the potential need to inject liquidity into a banking sector and there will then always be some potential trade-off between maintaining financial stability and monetary stability.

In a G10 country it is quite possible to think of a central bank injecting liquidity into the banking system but at the same time sterilising that injection through the sale of government bonds. This may allow a country to “recycle” liquidity, with an injection to the banking system but at the same time increasing government debt to sterilise to protect monetary stability (i.e.: to protect a monetary, inflation or exchange rate target). However, in the context of an emerging country this is simply unrealistic. Given any significant problem in the banking sector, there will almost inevitably be a switch from domestic to foreign assets and almost inevitably government bond markets will become increasingly illiquid. An injection of local currency liquidity will then be carried out at a time when there will be no demand for domestic currency assets and the central bank runs the very real risk (some would say certainty) of aggravating the problem rather than solving it. What is meant by this is that although the injection of domestic liquidity may be necessary to maintain the banking system alive in terms of liquidity, the liquidity injection will depreciate any floating exchange rate dramatically (and place any fixed rate at severe risk), thus potentially rendering insolvent any company (or bank) with a significant currency mismatch. The currency substitution and the lack of any realistic ability to sterilise under these conditions, implies that emerging countries face a much harsher trade-off than a G10 country between monetary and financial stability. For this reason, liquidity for the banking sector (and not just solvency) is an extremely important issue for emerging countries. And one potential way out of this dilemma is to develop an explicit liquidity policy.

To a significant extent, these problems were evident in the crisis-hit countries in South East Asia. Although there were initial solvency concerns as well it is clear that these were amplified tremendously by the violent exchange rate moves following the injection of substantial quantities of liquidity to save banking systems. It is now equally clear during the recovery phase how important this liquidity shock was. It seems doubtful that sufficient time has elapsed for the relevant countries to have implemented the fundamental reforms that some analysts deemed were required. And yet, many South East Asian countries are recovering extremely well, highlighting the fact that a major cause of the 'crash' in banking systems, credit-flows and GDP was liquidity in nature. The conclusion is then that if these countries had had an explicit 'ex ante' liquidity

¹⁶ As banks normally have an asset-liability maturity mismatch, rising interest rates will lead to lower banking solvency e.g.: the US savings and loans crisis of the 1980's.

¹⁷ See for example, “Market discipline and financial safety net design” Demirguc-Kent, A. and H. Huizinga, Sept. 1999, Policy Research Working Paper, 2183, World Bank and other papers in the World Bank’s research project on deposit insurance design.

policy in place, then they would most likely have suffered much less in terms of the disruption to credit intermediation, exchange rate over-shooting and consequent solvency problems due to currency mismatches.

In 1995, Argentina also experienced a sharp liquidity shock and banking sector crisis following the Mexican devaluation, which ultimately led to a serious recession. After that experience, the Central Bank has developed a “systemic liquidity policy” to protect the financial system from such an event re-occurring. What does this policy consist of? First, banks are required to maintain some percentage of both peso and dollar deposits and other short-term liabilities in the form of external liquid assets. The rule is that for liabilities of residual maturity of less than 90 days, they must have 20% of such assets with that percentage decreasing to zero for residual maturities of more than one year. Second, the Central Bank has attempted to provide 'systemic liquidity' to other domestic assets on banks' balance sheets. By 'systemic liquidity' we mean liquidity even in the face of a systemic shock. Hence the Central Bank has negotiated a contingent repo. contract with international banks to be able to repo. domestic assets for dollars cash in a time of stress. This contract covers government bonds, to some \$5.6bn, and Argentine mortgages for some \$500m (a total of about 8% of the deposit base - this excludes a \$1bn enhancement provided by the World Bank and the InterAmerican Development Bank to this facility). This implies that today, the Central Bank of Argentina could inject up to some 28% of the deposit base in hard currency liquidity into the banking system (through the reduction of liquidity requirements and using back to back repo. operations with domestic banks and the negotiated foreign repo. line) without affecting at all the 100% backing of the monetary base with international reserves maintained today¹⁸.

Such a liquidity policy clearly has its costs. The liquidity requirements imply a reduction in the total lending capacity of the domestic financial system and an opportunity cost for banks. A simple calculation of the opportunity cost for banks is as follows: the prime lending rate in Argentina is close to 8% (in US\$ which is the most relevant) while the liquidity requirements are remunerated at just under to short term international rates, say 5% implying an opportunity cost of 3%. A liquidity requirement of 20% then costs some 0.6% for each \$1 of deposits or each 80 cents of lending.¹⁹ It is interesting to compare this cost with that of the contingent repo. facility with the international banks, which attracts a commitment fee of some 35 basis points on average. Thus, to establish a line for 20% of \$1 of deposit implies a cost of just of 7 basis points (0.07%) about 10% of the cost of the liquidity requirements.

It is clear that liquidity in contingent form (ie: buying insurance) is then substantially cheaper than maintaining reserves (ie: self insurance). It also does not have the same cost in terms of reducing the lending capacity of the domestic financial system. A counter-argument is that such lines reduce the amount of capital to an emerging country given that international banks maintain some finite country limits and there may be

¹⁸ In fact, the currency board law allows this backing to be reduced to 2/3. If these 'excess reserves' above the legal backing are then also included in the calculation, the Central Bank could inject about 38% of the deposit base in hard currency liquidity. It is therefore somewhat ironic to hear it often repeated that Argentina has no lender of last resort to its banking system due to the currency board system!

¹⁹ Of course, this calculation assumes that the liquidity requirements are binding. If they are not binding then the costs fall to zero.

crowding-out. This direct effect depends critically on how banks treat lines that are (a) more than fully collateralized by assets which may be settled outside Argentina (although they are Argentine assets) (b) contingent and (c) enhanced by the World Bank and the IDB²⁰. The Central Bank attempted to minimise these crowding-out effects and indeed developed a policy on pricing such that banks that count such lines equivalent to straight loans (and hence where there may be strong crowding out effects), were not selected to participate.

However, it is our view that the liquidity policy put in place (liquidity requirements and the repo. facility) has actually crowded in credit to Argentina very significantly. Since the liquidity policy was formulated in 1995, the financial system has almost doubled in size. Moreover, given the turbulence in international financial markets (including in Argentine country risk spreads) over the last 2 years or so, the lending capacity of the system has also continued to grow. In our view then, the systemic liquidity policy although implying some direct costs, has helped to “crowd-in” domestic credit and hence, by reducing the costs of the financial system through enhanced economies of scale, has been a net benefit rather than a net cost for the banks. It has also of course implied that there has been a strong cushion of liquidity insurance available in case of any liquidity shock – thankfully not required since the 1995 experience.

Liability Management

Now let me turn more generally to liability management. Here, I want to consider the links to monetary and financial policy and liability management in both the public and private sector from the standpoint of emerging countries.

The analogy of the tendency towards foreign currency substitution on the asset side is the difficulty that emerging countries face attempting to issue liabilities in domestic currency. In practice, most emerging country borrowers face very steep yield curves in domestic currency²¹. This gives rise to a choice - which might be referred to as the devil's choice. Emerging countries may either issue debt more cheaply in foreign currency or they may issue in domestic currency, but where the costs dictate (or simply the lack of markets dictates) that maturities will be short. This is a devil's choice as it inevitably leads to currency risk, liquidity risk or (most likely) to both²².

The first thing to note is that both solutions make monetary policy more problematic. A stock of significant short-term debt in domestic currency implies that a strict monetary policy may increase the risk of an unstable debt dynamic and hence make a strict monetary policy, perhaps in the defence of an exchange rate or inflation target, less credible. On the other hand a significant dollarization of debt, leads to substantial currency risks such that the idea of a purely floating exchange rate also becomes less

²⁰ As mentioned the Contingent Repo. Facility has an enhancement from the World Bank and the IDB. The appropriate role for these institutions is discussed further below.

²¹ to the extent that a country manages to maintain some domestic investors as 'captive' then this trade-off might be ameliorated, I discuss this further below.

²² See the discussion of liquidity, currency and interest rate risk in the G22 Working Party report, G22 (1998) Strengthening Financial Systems. The argument is also closely related to the idea of “original sin” see Eichengreen and Hausmann (1990) “Exchange rate and financial fragility” mimeo Sept.

credible - as the balance sheet effects of a substantial exchange rate depreciation become more significant.

However, it is also clear that how to correctly manage liabilities will depend to some degree on the exchange rate regime chosen. For example, if a truly fixed rate regime is adopted, such as a currency board, then there is less cost to increasing currency mismatches and it seems best to focus on reducing roll-over risks and hence issuing at longer maturities in dollars or other foreign currencies (this has indeed been the explicit policy of the Argentine authorities, we note also that a substantial component of Argentine domestic debt i.e.: debt issued under Argentine law and/or debt held by domestic residents - either definition- is in dollars). In the limit, the adoption of full-monetary union with a hard currency (e.g.: dollarization) implies of course that there are no currency risks to issuing in the hard currency. On the other hand, if a country is attempting to run an independent monetary policy with a floating exchange rate then there may be more of a case to attempt to issue in domestic currency.

However, this will tend to either be more expensive or at shorter terms or both, and hence may give rise to problems of monetary control. Of course, if countries have a significant amount of captive domestic investors - normally domestic banks or pension funds or other domestic financial institutions or through a system capital controls then this trade-off may be ameliorated. However, to the extent that such investors are captive and are forced to hold government debt at 'subsidised' rates this must harm the balance sheets of these institutions and will undoubtedly have significant costs elsewhere in the economy, which should be considered. Whether these costs are justified in terms of the greater monetary control achieved is then the relevant question. This then comes back directly to Cooper's position - that an independent monetary policy and an open capital account may be inconsistent.

A second way forward is to establish a liquidity policy such that debts coming due within a certain period are covered by reserves. This policy might be seen as either one to control pure rollover risks or to make more credible an independent monetary policy in the face of significant short-term domestic currency debts - in other words, reducing the possibility of generating an unstable debt dynamic. Greenspan has made reference to the Guidotti rule (after the ex secretary of finance of Argentina - Pablo Guidotti) that a country should have reserves to cover debts coming due over the next 12 months²³. In fact, in Guidotti (1999), it is suggested that one of the qualifying conditions for the IMF's then new Contingent Credit Line (CCL) might be that a country's reserves plus the maximum access to the CCL (to be determined as a percentage of that country's quota) should cover 12 months of all government debt coming due²⁴.

I stress the fact that this rule should cover both domestic and external debt for two reasons. First, a problem in domestic capital markets can very quickly translate into a problem in external markets and hence to ignore a potentially unstable domestic debt dynamic appears simply incorrect on economic grounds. Second, considering only

²³ This has been interpreted incorrectly by some as covering only short-term external debts. The Guidotti rule referred to all (i.e.: internal and external, short and long term) public sector debt coming due within a 12-month period.

²⁴ Guidotti, P. (1999), Private sector involvement in crisis prevention and resolution: a comment", mimeo, July.

external debt is giving the signal, albeit implicitly, that external debt might be considered as senior to domestic debt. A response to this might be that in a floating exchange rate world a large depreciation would imply that domestic debts become much lower in dollar terms. However, this view is virtually certain to be inconsistent with any monetary or inflation target and obviously inconsistent with an exchange rate target. One view would be that for a country with an inflation target and a floating rate, reserves should cover 12 months of total debt coming due given the maximum depreciation consistent with the inflation target in place. This will depend on the particulars of the country involved.

Given the experience of Asia and also previous experience in Latin America in the 1980's, the liabilities of the non-financial private sector should also not be forgotten. Here a relatively non-controversial opinion is that at the least such liabilities should be monitored and once again this should refer to all liabilities and not only external ones. Obviously there are certain technical difficulties involved here and, for example, derivative transactions can distort the picture. Still, it does not seem an impossible task to develop a monitoring system that gives a useful, if not perfect, picture of private sector indebtedness and yet not all countries have even begun to implement such monitoring procedures.

A more controversial suggestion is that corporate indebtedness should be controlled in some sense, for example limiting foreign currency indebtedness or that authorities should include the non-financial private sector in developing an overall liquidity policy. If the incentives are correct for managers and shareholders to ensure that corporate risks are managed effectively (and that implies reasonable corporate governance and no implicit insurance) then, from a purely prudential standpoint, the arguments for some form of direct control on corporate liabilities or a liquidity policy are certainly weaker than in the case of the banking system which is normally considered as much more systemic. Such arguments would have to show that there was some kind of externality created by the individual actions of many corporate entities in contracting foreign debt and that intervening would bring greater rewards than costs. I leave this as an open question²⁵.

However, there may also be an argument for limiting corporate external indebtedness, but not from a prudential point of view, but rather from a monetary control point of view. In other words, the same argument as above that a high degree of dollarization (this time among corporates) might limit the potential of independent monetary policy action appears relevant. Once again we are back to the point of Cooper (1999) - that independent monetary policy and an open capital account might be inconsistent. This is one interpretation of the Chilean-type zero remunerated reserve requirement on capital inflows. In fact the Chilean system (lifted since 1998) is a mixture of a liquidity tool (in that it increases the reserves of the Central Bank) and a tax possibly reflecting mixed objectives²⁶. In fact a whole spectrum of potential interventions along a dimension from

²⁵ The Financial Stability Forum Working Group report on Capital Flows shied away from recommending controls or appropriate liquidity protection favouring only the monitoring of non-financial private sector external liquidity positions.

²⁶ See Lafort, G. (1998) "La política monetaria, el tipo de cambio real y el encaje al influjo de capitales: un modelo analítico simple" Documento de Trabajo 36, Banco Central de Chile and Schmidt Hebbel and

pure remunerated liquidity requirements to pure taxes could be considered depending on the mix of objectives. If the objective is purely prudential, then the relevant intervention might be a liquidity requirement with a zero tax component (along the lines of the Argentine liquidity requirements) whereas if the objective is purely monetary control, then the relevant intervention may be a pure tax. Those that argue in favour of the imposition of some sort of tax to gain monetary control need to demonstrate that the benefit of the increased monetary independence so attained by this type of policy outweighs the negative effects of the tax on capital inflows on investment and growth.

Developing an overall liquidity policy: some preliminary ideas

In this final sub-section, I attempt to give some preliminary ideas as to what a systemic liquidity policy might look like for a 'typical' emerging country. To do this I first present some of the data that has recently been made available and make some observations regarding its efficacy, I then present a purely theoretical calculation and finally then discuss the role of the multilaterals in aiding countries develop such a liquidity policy.

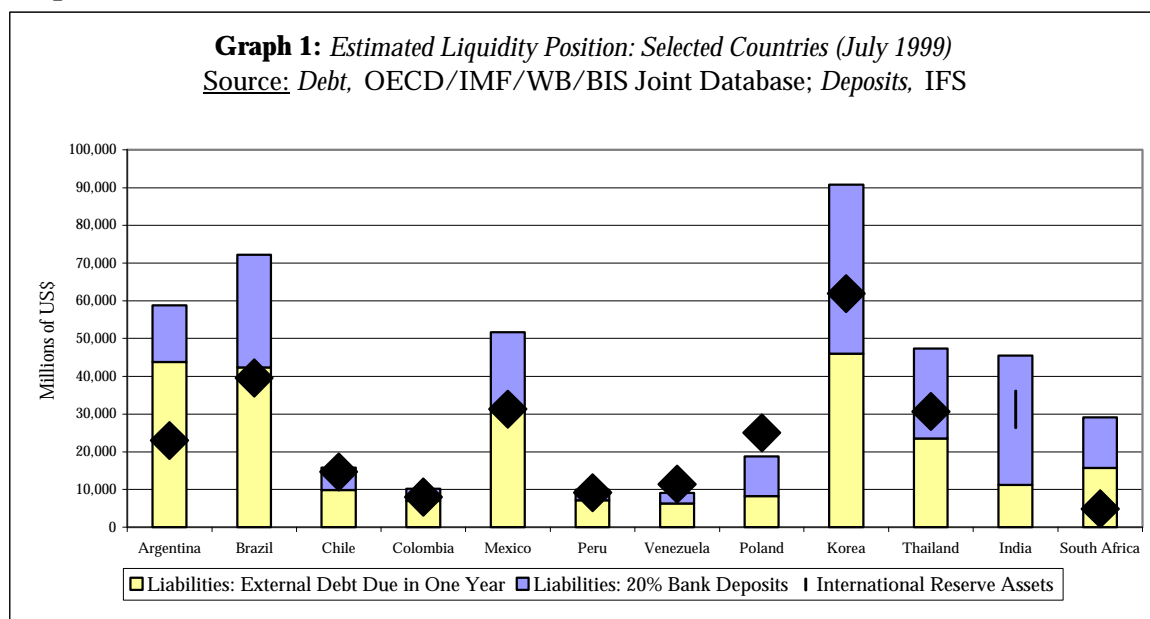
a. Using (recently available) easily found public data

In enhanced efforts to monitor countries debt and reserve positions, the IMF, OECD, BIS and the World Bank have co-operated and made available an extremely useful dataset on the internet (interested parties may log on, for example, to the OECD's website www.oecd.org/dac/debt/ to find this data). This database appears to be set-up to compare countries' 'external' liquidity positions, in other words to compare either stocks or flows of external assets and liabilities. Following the discussion above, I will compare the stated level of reserves with external liabilities coming due within the next 12 months plus 20% of banking sector deposits²⁷. This is illustrated in Graph 1. This graph then represents the latest technology available to monitor countries' liquidity positions. As such it represents a significant advance in that previously the analyst had to look at different sources, consider different definitions and attempt to aggregate to the best of his or her ability.

L. Hernández (1999) "Capital controls in Chile: Effective? Efficient? Endurable?" mimeo. Banco Central de Chile for further details and discusión.

²⁷ Deposit statistics are taken from the IMF's IFS. Obviously 20% is a purely arbitrary figure adopted in sympathy with the ratio for Argentine liquidity requirements. The reader who prefers a different ratio is free to compare the reserve figures with their own preferred fraction of deposits.

Graph 1

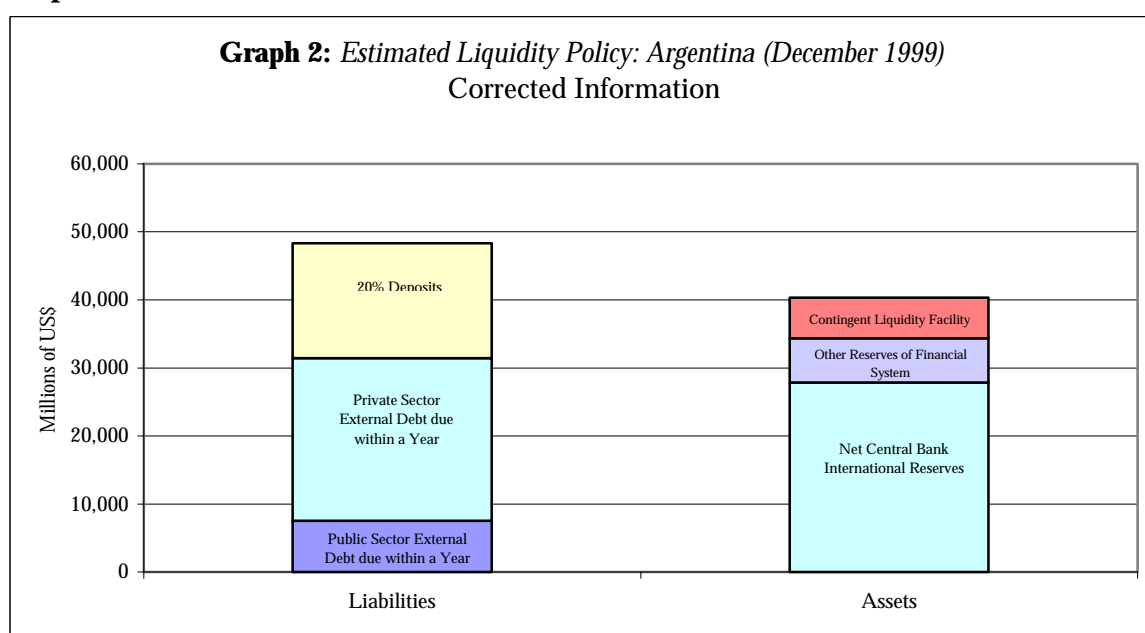


However, as discussed above, the calculation should be made with respect to all debt not just external debt and hence the figures tend to overstate the coverage of reserves - especially in those countries with high internal debt levels. However, the figures do include the non-financial private sector and not just public and financial sector liabilities (there is no breakdown published along these lines in this joint multilateral effort) and hence implicitly we are considering a wider liquidity policy in that regard. Consequently, countries with a higher proportion of short-term private sector debt look in a relatively weaker liquidity position. Moreover, there is some double counting. First, the BIS data on securities coming due in the next 12 months includes the banking sector but this is also included in a separate row on banking sector liabilities coming due but there is not a sufficient disaggregation to disentangle the relevant amounts. Moreover, there is likely to be double counting in the banking sector data from the IMF and the external liability data from this joint multilateral effort, which is discussed further below.

Unfortunately, there are further deficiencies with the definitions employed. I would advocate that there are potentially useful definitions of external debt, where the most relevant depends on the question under analysis. A first definition might refer to currency of denomination (this might be relevant for questions regarding the risks inherent in currency mismatches and what would happen for example if there was a significant devaluation). Second, there is a legal definition that refers to whether the debt was issued under local regulations or under the legal authority of another country (e.g.: typically US or UK law, this might be a relevant definition to analyse what would happen in the case of a potential default, which instruments might be subject to which modes of renegotiation). A final definition is residence i.e.: is the debt held by foreign or domestic residence. This is the relevant definition for thinking about the sustainability of the current account deficit for example.

The BIS stock data uses a nationality (otherwise known as a consolidated) criteria and a residence (otherwise known as a non-consolidated) criteria. For the nationality criteria, what is apparently important is the nationality of the headquarters of the bank in question²⁸. To give an example, a dollar loan given by Citibank Argentina to an Argentine resident, booked in Argentina and funded by a dollar deposit in Argentina of an Argentine resident, is considered in this data as external debt. The residence criterion nets this out. Unfortunately the figures for the banking sector for the amounts coming due over the next 12 months are only available on the nationality criteria. This overstates the ‘external debt’ figures for countries with significant banking sector liabilities and assets in foreign currency - like Argentina - substantially²⁹. Moreover, it also implies that there may be serious double counting in that the IMF banking sector deposits data may include deposits counted as external liabilities.

Graph 2



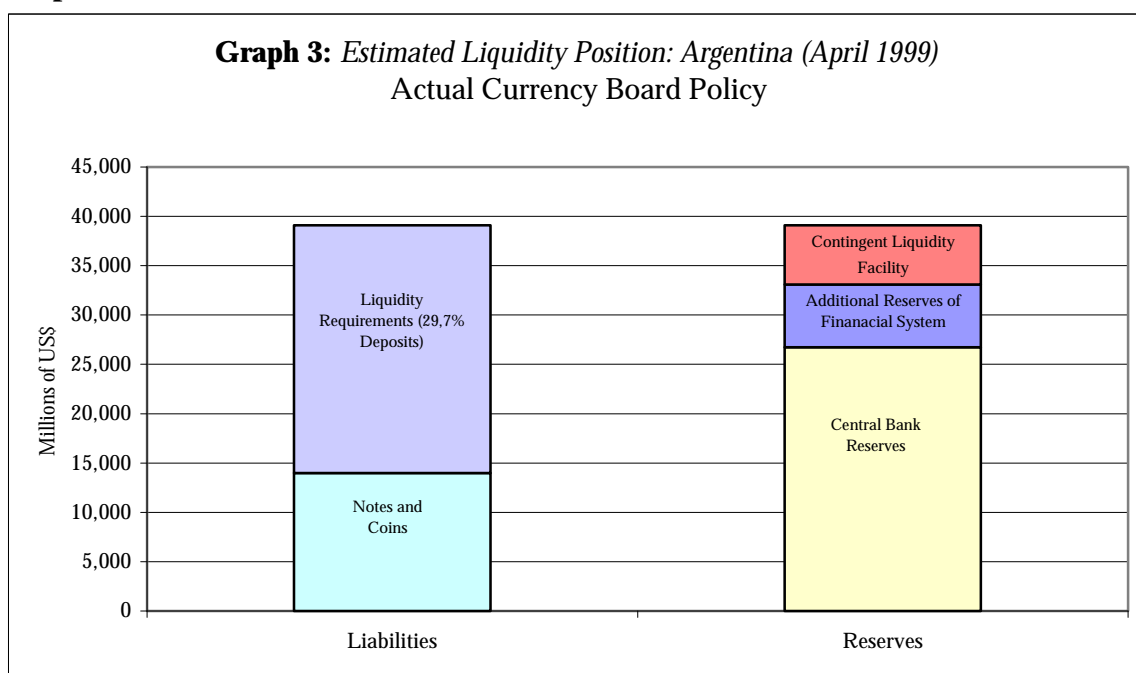
A second problem is the definition of reserves. Given we are considering the liabilities of the public and private sector, the relevant comparison should, arguably, include any information available regarding private sector reserves. In other words, it perhaps should be a net liquidity position of the private sector that is relevant, not simply the debts coming due. At the very least any known liquid reserves of the private sector should be included. In the case of Argentina, for example, some of the liquidity requirements are held offshore and these are not included in the reserve figures for the Central Bank. Finally, the BIS data refers not just to drawn lines but also commitments and again there may also be contingent liquidity available on the asset side (for example the Argentine contingent liquidity facility). Graph 2, then presents a ‘corrected’

²⁸ And also the currency. A domestic currency loan from a BIS reporting bank in an emerging country funded by local deposits does not count as ‘cross-border’.

²⁹ As stated in the BIS stock figures, the diligent analyst can control for this effect by comparing the consolidated with the non-consolidated figures but this does appear to require a fairly high degree of knowledge regarding the data sources and definitions and unfortunately several analysts have not invested sufficient time or effort and have focused only on what they regard as ‘headline’ (i.e.: consolidated) liability figures with the predictable misleading results.

comparison for the end of 1999 using official figures and where liabilities are defined correctly on a 'residence' basis and reserves include the reserves of the banking system held offshore and the Contingent Liquidity Facility (an alternative would be to include all of the foreign assets held by Argentines abroad). In fact, in the case of Argentina, the currency board implies a different policy rule in that these reserves really back 100% of the monetary base plus a fraction of banking sector deposits. We include Argentina in Graphs 1-2 for reasons of comparison only. In Graph 3, we show the actual functional rule which is that the Central Bank backs 100% of M0 plus roughly 28% of the deposit base.

Graph 3



b. Theoretical calculations

The above data then is a useful starting point but unfortunately can give a misleading picture depending on country characteristics. Presumably as the quality of this data improves over time these types of problems will be reduced. Let me now try to suggest the type of liquidity policy that I really have in mind, without the constraints of actual data availability, and what this implies for emerging countries. Suppose an emerging country has total public sector debt to GDP of some 30% with an average maturity of 5 years such that 20% of that debt matures within one year, suppose M0 is some 2% of GDP and banking sector deposits are 40% of GDP³⁰. If we consider a liquidity policy such that reserves cover 1) public sector debt coming due within one year 2) 100% of M0 and 3) 20% of bank deposits, then this country needs to hold reserves of some 16% of GDP! Once again, this kind of calculation is highly arbitrary depending on the level

³⁰ Here I also include M0 in sympathy with currency board countries. Any reader in disagreement with this can simply subtract the 2% of GDP from the final figure.

of cover of each aggregate (M0, banking deposits and debt coming due)³¹, and a sensitivity analysis could be conducted on these figures, but the main point is that this is a very substantial number, (and excludes non-financial private sector liabilities), and very few countries have that level of reserves.

Another way to consider the problem is to suppose that the ‘typical’ emerging country had reserves (or liquidity for 12% of GDP). Then, for this to cover 100% of M0 and 20% of bank deposits then, with a debt to GDP ratio of 30%, the amount of debt coming due in one year as a percentage of total debt could be no more than 6.7%. This kind of calculation might then define a safety-first public sector liability management policy to be followed. More generally one could express the policy in terms of a maximum percentage of banking liabilities (which could be influenced by appropriate liquidity incentive regulations on banks) and public sector liabilities to be coming due within the next 12 months.

c. On the role of the multilaterals

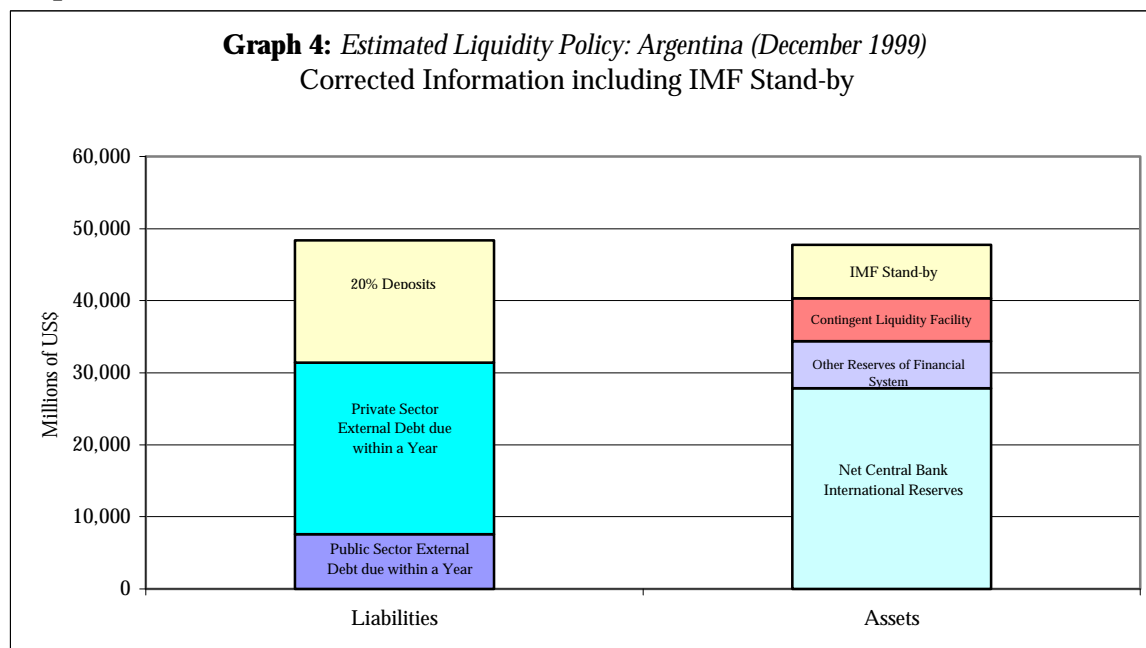
However, it is also clear that liquidity shocks are not perfectly correlated across countries and hence it would be extremely inefficient for each and every country to maintain such levels of reserves or have the cost of extending debt maturities so much. This then suggests that some central agency, most likely the IMF, has a very important role to play to complement domestic liquidity policies. These arguments are clearly related to the view that the IMF should see itself more explicitly as an international lender of last resort³². However, the IMF should only act in this capacity given that countries themselves have appropriate prudential policies including an appropriate systemic liquidity policy defined in the type of fashion described above. Indeed the above suggests a widening of the Greenspan-Guidotti rule in that access to IMF facilities might be conditioned on the view that such access, together with the local liquidity policy, should provide an acceptable degree of cover for the various aggregates as suggested by the above discussion. In Graph 4, purely for interest, we present such a comparison for Argentina including the current \$7.2bn Stand-By agreed with the IMF. If we include this agreement then Argentina’s reserves (i.e.: reserves of the financial system and the IMF Stand-By) cover all of 12 months external debt coming due (public and private sector) and 20% of bank deposits³³.

³¹ Liquidity can be held in other forms apart from reserves and one possibility is contingent lines from the private sector (as Argentina and other countries have negotiated). However, it seems unlikely that such lines could be for much more than say 2% of GDP.

³² See Fischer (1999) and Gavin and Powell (1997,1998) and on the lender of last resort role of the IMF.

³³ As noted this is only presented out of curiosity. The actual policy of the Central Bank is to cover M0 and a percentage of deposits. The Treasury manages the liquidity risks inherent in any debt outstanding.

Graph 4



This is then one way to think about the role that the IMF could play to complement a domestic liquidity policy. As mentioned previously, the World Bank and the Inter American Development Bank have given the Central Bank of Argentina a \$1bn enhancement to a contingent liquidity facility³⁴. Hence to the extent that this enhancement leverages up the private sector funds in the facility, these multilaterals are also playing a role in the overall liquidity position. This division of responsibilities between IMF resources, which in the case of Argentina act as a kind of fiscal back-stop, and the MDB's which are leveraging-up a back stop for the financial sector raises a set of fascinating questions. The G7 and the G22 have both concluded that the MDB's should attempt to crowd in the private sector and support contingent lines but details are lacking³⁵. First, while the division of labour between the Fund and the MDB's can be justified given the MDB's role in terms of financial sector dev more macroeconomic concerns, it would certainly be useful to open this debate and obtain a clear framework to define responsibilities. Second, it is not clear currently whether the standard instruments employed by the IMF and the MDB's fit the actual job. For example, the MDB's have essentially given a contingent loan to Argentina to enhance the contingent liquidity facility but it might be more efficient to use a guarantee structure. The World Bank has now a guarantee program but the its use (and pricing),

³⁴ As this enhancement is to be used to finance 'variation margin' payments if the contingent facility is drawn, it is not included in the figures presented above.

³⁵ See for example the G22 (1988) Report on International Financial Crises". The following statement by Larry Summers (Council of the Americas, 20/3/2000) on the role of the MDB's (Multilateral Development Banks) goes into more detail. Summers' suggests an emphasis on three types of circumstances for MDB operations the second being, "where the involvement of the MDB's can attract genuinely additional private flows: for example, where MDB co-financing arrangements and guarantees can enhance the credibility of developing country borrowers in the eyes of investors. In this context, we believe that the MDB's should continue to explore more innovative ways of catalysing private capital flows to such countries, where these can be pursued within strict and clear guidelines that safeguard the financial position of the institutions."

despite the calls from the G7 and G22, still appears to be controversial. The IMF is currently reviewing its own set of instruments ('facilities'). This is an area where a clearly defined set of principles would be of enormous benefit both for the boards of the Fund and the MDB's, to know where their political masters might wish them to head, and for member countries to know which kinds of instruments, and from who, might be available.

4) The Banking Sector

In the above I have considered exchange rate arrangements and liquidity arrangements without reference to other banking sector risks. There has been an enormous amount written recently regarding banking sector and financial sector strengthening and so it does not appear to be a useful exercise to repeat the main findings here³⁶. Rather, I will focus on the experience and lessons from Argentina and in particular the development and implementation of BASIC banking oversight as the system is now known.

Introduction

The recent literature has rightly stressed the role of promoting the correct incentives. On the one hand, this requires a careful design of the safety net, most likely towards a limited but explicit deposit insurance scheme and guidelines on the Central Bank (or other) lender of last resort activities. On the other hand, it requires a set of prudential regulations that enhance incentives towards prudence.

A useful approach is a combination of both traditional regulation and supervision and market mechanisms. The roles of the banking sector supervisor and the market are highly complementary in at least two different levels. First, in terms of generating information and monitoring that information and second in terms of disciplining. One way to think about these complementarities is to note that there may be both 'supervisory' failures and 'market' failures both in terms of information generation and monitoring and in terms of disciplining.

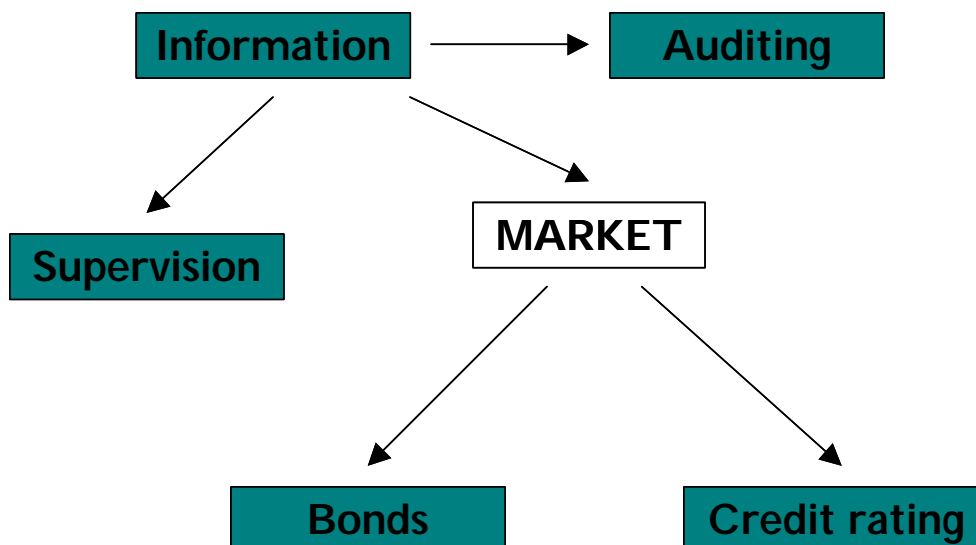
BASIC banking oversight in Argentina

This complementary approach is enshrined in Argentina's BASIC approach to banking oversight³⁷. In this system, the Superintendency shares the role of monitoring and disciplining banks with the market. BASIC refers to the names of the instruments employed in this interlocking system: Bonds, (external) Auditing, traditional Supervision, Information and Credit rating. In Table 3, I present a more schematic representation of the pieces of this policy fit together and below I discuss each in a more logical order.

³⁶ The G22 Report on Strengthening Financial Systems is a comprehensive 'official' document on the issue. The Basel Core Principles (available on www.bis.org) and the compendium of standards available on the Financial Stability Forum website (www.fsforum.org) are also required reading. There is also a very wide literature including extensive documents from the IMF and the World Bank.

³⁷ See Powell 'BASIC banking oversight' (1998) for an overview. Here I discuss the two levels of complementarity, monitoring and disciplining, and suggest a (very informal) 'production function' for banking oversight.

Table 3: BASIC banking oversight



Information is a key element for banking oversight, by the market or by the Superintendency. The letter "I" refers to the information revealed on the performance of banks. With this in mind, the Central Bank has developed a policy of publishing every month the balance sheets, performance ratios (including earnings, costs and efficiency and details of non-performing loans), regulatory ratios (including provisioning, capital and liquidity positions) and other relevant information regarding the banks in the system. The information is presented in absolute numbers and also each bank is compared to the system as a whole and also to a subset of similar banks. This information has now become a standard reference in the market and is available on paper and CD format and is also available on the Central Bank's website – www.bcra.gov.ar.

Further related to the issue of information, the Central Bank has also established a central Credit Bureau consisting of a set of related policies that first began in 1992 with a database of the largest debtors of the financial system. However, in the last three years, the Central Bank has significantly extended this database, which now consists of all loans in the financial system of more than \$50 and related information.

The Central Bank distributes the bad loans of the financial system (loans in categories 3-6 of the Argentine system of loan categorisation) in a database format on a CD to financial institutions and to private credit bureau companies. Moreover, the Central Bank makes available the whole database, (good and bad loans) for punctual enquiries, on the Central Bank's website.

The motivation for this policy is twofold. First, to increase the information available to banks and other financial institutions regarding the credit histories of borrowers - both commercial and consumers and secondly to increase the 'willingness to pay' of borrowers. Borrowers know that if they appear in the Central Bank's database in a poor category then, apart from any unease created simply by this information being available,

they will most likely be denied future credit from the financial system or at least their cost of credit will rise.

Most recently the Central Bank has sought to complement the basic credit information with more information regarding firms' balance sheets and certain information pertaining to consumers ability to pay. This information will be distributed to financial institutions and to private credit bureau companies so that they can develop more sophisticated models of credit scoring to further assist in credit-granting decisions.

In the Anglo-Saxon (US, UK etc) policy discussion such activities are normally carried out purely by private companies while on continental Europe there are several examples of credit bureaux in the official sector and I understand this issue is currently under discussion in the EU. The view of the Central Bank of Argentina is that there are strong arguments for public intervention in the generation of the basic information as there are very strong economies of scale and the basic industry may be close to a natural monopoly. However, private credit bureau companies also have a very important role, not from the profit from 'monopoly rents' but rather from adding value to this information by complementing it with other information sources and/or developing credit scoring models and other products of interest to the credit markets.

External auditing plays a very significant role in bank supervision, as it allows the validation of the balance sheets presented by the banks to the Central Bank. The letter "A" is a reference to this component. Moreover, given the importance of the duty of external audits, the Superintendency in Argentina has created a group, whose main task is the control of the compliance with the external auditing regulations, which in turn are explained, clearly in a detailed manual. Naturally, for the auditing function to operate well requires a sound set of accounting standards. The recent agreement on a set of international standards in this area should be a very significant advance indeed.

The letter "S" stands for the traditional regulation and **supervision** carried out by the Superintendency (a semi-autonomous unit within the Central Bank)³⁸. Argentina has, in the last eight years or so, completely revised its banking sector regulations. In Table 4, taken from Calomiris and Power (2000), I present a list of the main changes. In broad terms the approach has been to adopt Basel regulations to local conditions, which normally involves higher requirements³⁹.

³⁸ The Vice Superintendent and the Superintendent are both members of the 10-person Central Bank board, which governs the entire Central Bank.

³⁹ Calomiris and Powell (2000) 'Can emerging bank regulators establish credible market discipline?' Forthcoming NBER publication on banking regulation, ed. Frederic Mishkin.

Table 4: Main Regulatory Advances in Argentina 1991-1999

April 1991 Currency Board Adopted (backing of monetary base and ex rate 10,000:1, subsequently 1:1).

September 1992 New Charter of the Central Bank.

December 1992 Deposit Insurance Abolished.

1992-1994 Basel Capital Requirements Adopted, Raised to 11.5% at December 1994.

1994-1995 Provisioning Requirements Tightened.

April 1995 Limited, Fully Funded, Deposit Insurance, \$20,000 (subsequently \$30,000).

August 1995 Liquidity Requirement System (Rasied to 20% of Deposits through 1997).

September 1996 Market Risk Capital Requirements.

1997-1998 BASIC Introduced (B for Bonds, C for Credit Rating etc).

March 1999 Capital Requirements for Interest Rate Risk

For example, capital requirement consists of basic 11.5% counterparty risk requirements with other requirements on top, plus additional requirements for market risk and interest rate risk bringing the total requirement to some 15% of assets at risk⁴⁰. Banks maintain, on average, about to 19% of capital to assets at risk. An interesting research project currently underway is how to use the information from the credit bureau discussed above to adapt counterparty capital requirements more closely to actual risks⁴¹.

Turning to the supervisory function, this task is performed following a scheme very similar to the CAMELS model, developed by the OCC and the Federal Reserve Bank System of the U.S. Supervision is performed on a consolidated basis, with periodic on-site inspections of banks⁴².

Using the Information disclosed and validated by the external auditors, the BASIC system of banking oversight also includes techniques to enhance market monitoring and disciplining. These instruments are represented by the letters B and C.

⁴⁰ Market risk regulations follow an adapted Basel 'standardised approach' with higher risk weights (calculated as a function of the volatility of Argentine asset prices and using coefficients derived from a VAR type model) and less generous offsetting rules (to reflect lower price covariance) and interest rate risk applies to all banks (not just outliers) reflecting banks' asset and liability mismatches and Argentine interest rate volatility again in a VAR type framework.

⁴¹ See Falkenheim and Powell (1999) for a non-parametric model of portfolio credit risk calibrated using the Argentine data. Within the Central Bank we have also adapted Creditrisk+ (trademark of Credit Swiss Financial Products, CSFP) and are now in a position to analyse the credit risk portfolio of any bank in the system using this parametric model.

⁴² The Central Bank has also developed an early warning system for bank failures. See Anastasi, Burdiso, Grubisic and Lencioni (1999) 'Predicting bank failures in Argentina' available on the C website www.bcra.gov.ar.

The letter "B" makes reference to the obligation banks have to issue **bonds** or other long term liabilities, to an amount equivalent to 2% of total deposits for each year period. To comply with this regulation, banks must go to the market, obtain ratings and subject themselves to analysis by institutional investors, domestic and foreign, who put their capital at risk. The focus of this regulation, unlike the proposals currently in the US, is on the primary market. The regulation applies to virtually all banks but banks may comply through a fairly wide set of instruments. In other words, the decision was to allow banks flexibility to reduce costs at the expense of standardisation. This implies that secondary markets are very thin and instruments between banks not highly comparable such that secondary market yields are not highly informative for considering comparable market risk assessments. However, through the process of going to the primary market each year enhances monitoring and discipline and new groups of 'sophisticated' agents interested in banks' performance is generated⁴³.

It is fair to comment however that the experience with this regulation has been mixed. The regulation was introduced in 1997 and was quickly followed by the Asian crisis, then the Russian default and then the Brazil devaluation. Over this period, banks and other Argentine corporates found that issuing longer-term liabilities was either very expensive or simply impossible. The Central Bank responded by adjusting deadlines whereby banks must issue and reducing the penalties for non-compliance. Calomiris and Power (2000) present evidence that how banks comply with this regulation gives information regarding banks' strengths and suggest that on the whole this regulation has served a very useful purpose⁴⁴.

Finally, the letter "C" makes reference to the role played by the **Credit Rating** agencies in banking supervision in Argentina. The main objective of this regulation is to provide depositors, especially the "smaller" or less sophisticated depositor, with information regarding the risk of the bank in question, putting them in a better position to evaluate their investment. This regulation initially stated that each bank should have two credit ratings, which must be drawn from a set of authorised agencies. The list of authorised agencies included both some local agencies and well-known international names. However, the experience was that there were clear differences in the quality of the ratings and that there was perhaps more information in which agency a bank chose rather than the rating itself. The regulation was then changed to ask banks to obtain only one rating but that that rating should be from an authorised international rating agency to ensure greater consistency. At the same time, some of the local agencies merged and/or were bought out by international ones reflecting the general trend towards greater concentration in the industry.

Discussion

The BASIC system then represents a set of interlocking instruments related to banking oversight. This set of policies, developed after the Tequila period, together with the liquidity policy highlighted above has had a tremendous impact on the financial system, complemented by the entrance of foreign capital. In the pre-Tequila period the banking

⁴³ See Calomiris and Powell (2000) 'Can emerging bank regulators establish credible market discipline?' forthcoming NBER publication on banking regulation, ed. Frederic Mishkin for a more detailed discussion of this regulation.

⁴⁴ Op cit.

sector, unlike elsewhere in the economy, received virtually no new injections of foreign capital. However, in the years 1996-1997, this situation was reversed to bring the banking sector more in line with many other economic sectors.

As of December 1997, the proportion of foreign capital over the total net worth of private banks had reached 55% and the deposits of those institutions with at least 30% of foreign capital summed to 43% of the total financial system (i.e.: including the public banks) and almost 60% of deposits in the private banks. The internationalisation of the financial system has played a very important role in these last years in contributing to economic and financial stability in Argentina.

Clearly such a tight liquidity and regulatory regime has its direct costs. However, the increased safety has led to increased size, foreign entry and hence new technologies and heightened competition in the sector. This has then provoked a significant net efficiency gains in the industry. The experience has been then that implementing this strong regulatory regime has implied lower not higher administration costs as a percentage of assets and a reduced, not higher, cost of credit, and has made more credit available throughout the economy.

Some argue that the strength of banking sector regulations should depend in some way on the exchange rate system in place e.g. that a fixed exchange rate system requires stronger banking sector regulations. The above arguments suggest advantages to strong banking sector regulations irrespective of the exchange rate system in place. In my view, it is entirely incorrect to only suggest strong banking regulations for countries with fixed exchange rates. An analogy might be that it is like recommending wearing seat belts only to those with no airbags in their cars. Even if you have an airbag, not wearing a seat belt might cost you your life. Moreover, the ability to suffer a dramatic exchange rate depreciation (due to the injection of domestic liquidity in the banking system at a time when there was no demand for domestic assets) has considerable more costs associated than inflating an airbag!

5) Conclusions.

In this paper, I have considered three central policy areas (i) exchange rate regimes; (ii) liquidity policies and (iii) banking sector regulations albeit in a somewhat subjective and selective manner. The main conclusions of this paper might be summarised as follows:

1. Exchange rate management remains as controversial as ever. One way forward would be for the world community to acknowledge explicitly that the choice of exchange rate regime is for the country but to determine clear key guidelines or even standards to accompany different exchange rate policies. A country that wished to maintain a fixed exchange rate and an open capital account should be recommended a currency board type mechanism and countries with capital account restrictions should develop mechanisms of communication to ensure that the market perceives overall policy consistency. On the other hand a country that wishes to adopt a floating exchange rate with an open capital account will wish to develop hedging instruments as far as is feasibly possible and such countries with significant currency mismatches will need to consider how it will react to potentially violent exchange rate swings and strong balance sheet effects. If such swings are too violent then

there may be a case for maintain capital market restrictions (if considered workable) although costs should be weighed against benefits. Countries which wish to follow an intermediate path will in general need to maintain some measure of capital import taxes or other controls and naturally the benefit of the increased ‘flexibility’ in terms of exchange rate/monetary management needs to be weighed against the cost of less access to international capital. Again, the importance of ways to ensure that the market perceives overall policy consistency are paramount.

2. Emerging countries face a tighter trade-off between monetary and financial stability and in keeping with a ‘safety first’ approach may need to consider establishing a systemic liquidity policy as a way of enhancing this trade-off – irrespective of the exchange rate regime in place. This liquidity policy should take into account the public sector and the banking sector and possibly also the non-financial private sector. Official data recently made available represents a considerable advance in monitoring countries’ liquidity positions but in my view suffers from serious deficiencies that lead to misleading conclusions for some countries including Argentina. No doubt, definitions will be improved over time to remedy these problems. A systemic liquidity policy has its direct costs and one way of thinking about the role of the IMF and MDB’s is to complement such a national policy. In practice, these institutions are actually playing this role but it would be helpful to elucidate a set of principals to define more clearly the respective role of these institutions in this important task.
3. There has been a great deal said and written regarding building a safe and sound banking system. Traditional regulation and supervision, and the market are complementary mechanisms and should be developed in tandem. They may be complementary both in terms of monitoring and in terms of discipline. This is precisely the thinking behind Argentina’s BASIC system for banking oversight, which has yielded significant improvements for the banking sector. There is no trade-off between banking sector soundness and the exchange rate regime in place.

In many areas the discussion above has simply raised issues or presented a first attempt at various ideas. It is hoped that at the least the paper will generate discussion as to the appropriate safety-first policy combinations that emerging countries may wish to consider, how data regarding those policies should be defined and disseminated and the role of the multilaterals in complementing those safety-first strategies.

Annex: Exchange Rate Regime Classification (July, 1995, December 1999)

Exchange Rate Regimes					
1995 (#countires = 181)					
		Fixed	Intermediate	Float	
Currency Board		1 Argentina 2 Brunei Darussalam 3 Hong Kong 4 Djibouti 5 Estonia 6 Lithuania	1 Bahamas, The 2 Bahrain 3 Bangladesh 4 Barbados 5 Belize 6 Bhutan 7 Botswana 8 Burundi 9 Cape Verde 10 Cyprus 11 Czech Republic 12 Chile 13 Denmark 14 Ecuador 15 Fiji 16 Greece 17 Iceland 18 Iraq 19 Jordan 20 Kuwait 21 Lesotho 22 Liberia 23 Libyan A.J. 24 Malta 25 Mauritania 26 Morocco 27 Myanmar 28 Namibia 29 Nepal 30 Nicaragua 31 Nigeria 32 Oman 33 Qatar 34 Samoa Occ. 35 Saudi Arabia 36 Seychelles 37 Slovak Republic 38 Solomon Islands 39 Swaziland 40 Syrian Arab Rep. 41 Thailand 42 Tonga 43 Turkmenistan 44 United Arab Emirates 45 Vanuatu 46 Venezuela 47 Yemen, Rep. Of	1 Afghanistan 2 Albania 3 Armenia 4 Australia 5 Azerbaijan 6 Bolivia 7 Bulgaria 8 Canada 9 Coata Rica 10 El Salvador 11 Ethiopia 12 Gambia, The 13 Ghana 14 Guatemala 15 Guinea 16 Guyana 17 Haiti 18 India 19 Iran 20 Jamaica 21 Japan 22 Kazakhstan 23 Kenya 24 Kyrgyz Republic 25 Lebanon 26 Madagascar 27 Malawi 28 Mexico 29 Moldova 30 Mongolia 31 Mozambique 32 New Zealand 33 Norway 34 Papua New Guinea 35 Paraguay 36 Peru 37 Philippines 38 Romania 39 Rwanda 40 Sao Tome & Principe 41 Sierra Leone 42 Somalia 43 South Africa 44 Suriname 45 Sweden 46 Switzerland 47 Tajikistan 48 Tanzania 49 Trinidad & Tobago 50 Ukraine 51 Uganda 52 United Kingdom 53 United States 54 Uzbekistan 55 Zaire 56 Zambia 57 Zimbabwe	
	Exchange Arrangements with no separate legal tender	Euro Area	7 Austria 8 Belgium 9 Finland 10 France 11 Germany 12 Ireland 13 Italy 14 Luxembourg 15 Netherlands 16 Portugal 17 Spain		
ECCM		18 Antigua & Barbuda 19 Dominica 20 Grenada 21 St. Kitts & Nevis 22 St. Lucia 23 St. Vicent & the Grenadines			
CFA Franc Zone		WAEMU	24 Benin 25 Burkina Faso 26 Comoros 27 Cote d'Ivoire 28 Mali 29 Niger 30 Senegal 31 Togo		
		CAEMC	32 Cameroon 33 Central African Rep. 34 Congo, Rep. of 35 Chad 36 Equatorial guinea 37 Gabon		
Another currency		38 Kiribati 39 Marshall Islands 40 Micronesia 41 Panama 42 San Marino			

Exchange Rate Regimes		
1995 (#countires = 181)		
Fixed	Intermediate	Float
		58 Angola 59 Argelia 60 Belarus 61 Brazil 62 Cambodia 63 Colombia 64 Croatia 65 China 66 Dominican Rep. 67 Egypt 68 Eritrea 69 Georgia 70 Guinea-Bissau 71 Honduras 72 Hungary 73 Indonesia 74 Israel 75 Korea 76 Lao, PDR 77 Latvia 78 Macedonia 79 Malasya 80 Maldives 81 Mauritius 82 Pakistan 83 Poland 84 Russian Fed. 85 Singapur 86 Slovenia 87 Sri Lanka 88 Sudan 89 Tunisia 90 Turkey 91 Uruguay 92 Vietnam

Managed Floating

Exchange Rate Regimes						
1999 (# Countries = 185)						
		Fixed	Intermediate	Float		
Currency Board	1 Argentina 2 Bosnia & Herzegovina 3 Brunei Darussalam 4 Bulgaria 5 Djibouti 6 Estonia 7 Hong Kong 8 Lithuania		1 Aruba 2 Bahamas, The 3 Bahrain 4 Bangladesh 5 Barbados 6 Belize 7 Bhutan 8 Botswana 9 Cape Verde 10 China 11 Egypt 12 El Salvador 13 Fiji 14 Iran 15 Iraq 16 Jordan 17 Kuwait 18 Latvia 19 Lebanon 20 Lesotho 21 Macedonia, FYR 22 Malaysia 23 Maldives 24 Malta 25 Morocco 26 Myanmar 27 Namibia 28 Nepal 29 Netherlands Antiles 30 Oman 31 Pakistan 32 Qatar 33 Samoa 34 Saudi Arabia 35 Seychelles 36 Solomon Islands 37 Swaziland 38 Syrian Arab Rep. 39 Tonga 40 Trinidad & Tobago 41 Turkmenistan 42 United Arab Emirates 43 Vanuatu 44 Zimbabwe	1 Afghanistan 2 Albania 3 Angola 4 Armenia 5 Australia 6 Brazil 7 Canada 8 Colombia 9 Congo, Dem. Rep. Of 10 Chile 11 Ecuador 12 Eritrea 13 Gambia, The 14 Georgia 15 Ghana 16 Guinea 17 Guyana 18 Haiti 19 India 20 Indonesia 21 Japan 22 Kazakhstan 23 Korea 24 Liberia 25 Madagascar 26 Mauritius 27 Mexico 28 Moldova 29 Mongolia 30 Mozambique 31 New Zealand 32 Papua New Guinea 33 Peru 34 Philippines 35 Russian Fed. 36 Rwanda 37 Sao Tome & Principe 38 Sierra Leone 39 Somalia 40 South Africa 41 Sudan 42 Sweden 43 Switzerland 44 Tanzania 45 Thailand 46 Uganda 47 United Kingdom 48 United States 49 Yemen, Rep. Of 50 Zambia		
	Exchange Arrangements with no separate legal tender	9 Austria 10 Belgium 11 Finland 12 France 13 Germany 14 Ireland 15 Italy 16 Luxembourg 17 Netherlands 18 Portugal 19 Spain			Other Conventional Fixed pegged arrangements	Independently Floating
20 Antigua & Barbuda 21 Dominica 22 Grenada 23 St. Kitts & Nevis 24 St. Lucia 25 St. Vincent & the Grenadines						
26 Benin 27 Burkina Faso 28 Comoros 29 Cote d'Ivoire 30 Guinea-Bissau 31 Mali 32 Niger 33 Senegal 34 Togo						
35 Cameroon 36 Central African Rep. 37 Congo, Rep. of 38 Chad 39 Equatorial Guinea 40 Gabon						
CFA Franc Zone						
WAEMU						
CAEMC						
Another currency as						
41 Kiribati 42 Marshall Islands 43 Micronesia 44 Palau 45 Panama 46 San Marino						

Exchange Rate Regimes			
1999 (# Countries = 185)			
Fixed	Intermediate		Float
	Pegged exchange	45 Cyprus 46 Denmark 47 Greece 48 Iceland 49 Libyan A.J. 50 Vietman	51 Algeria 52 Azerbaijan 53 Belarus 54 Burundi 55 Cambodia 56 Croatia 57 Czech Republic 58 Dominican Rep. 59 Ethiopia 60 Guatemala 61 Jamaica 62 Kenya 63 Kyrgyz Republic 64 Lao PDR 65 Malawi 66 Mauritania 67 Nigeria 68 Norway 69 Paraguay 70 Romania 71 Singapore 72 Slovak Rep. 73 Slovenia 74 Suriname 75 Tajikistan 76 Ukraine 77 Uzbekistan
	Crawling Pegs	51 Bolivia 52 Costa Rica 53 Nicaragua 54 Tunisia 55 Turkey	
	ER within Crawling bands	56 Honduras 57 Hungary 58 Israel 59 Poland 60 Sri Lanka 61 Uruguay 62 Venezuela	
			Managed Floating with no preannounced path for e.r.