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The Role of Finance, including E-Finance, to enhance enterprise development*

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### **Future of E-finance for SMEs**

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### Disclaimer

This paper is intensely focused on development of SMEs in developing countries. It has taken India as a reference point for the economies in transition. The experience of and prescription for other non-SME units and that of SMEs in developed nations are likely to be different.

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### A Snap-Shot

<i>STAGE</i>	<i>KEY PLAYER</i>	<i>TARGET</i>
STAGE– 0: <i>Database</i>	SME associations	Searchable “live” database
STAGE– 1: <i>e-Culture Wave</i>	SME asso. & govt. support	Unique identity
STAGE– 2: <i>e-Trade</i>	Industry with SME asso.	Credit history & ASP
STAGE– 3: <i>e-Finance</i>	Industry with banks	Removal of finance constrain

## Prologue

Across the globe, especially so in developing countries, SMEs are dominant constituent of the GDP of a nation, besides being the key employment engine. In the knowledge age, SMEs assume an enhanced significance because of the dis-integration based internet business models and the resultant rapid globalization. SMEs provide the much needed agility / flexibility to the economic structure of an economy; which makes it feasible for large-scale units to sharpen their economic competitiveness, by focusing on their core competency (typically, marketing & technology) and sub-contracting to SMEs. A thriving SME sector is *sine qua non* for economic growth and poverty alleviation. Hence, the impediments in the growth of SMEs, constrain the economic growth of a nation.

SMEs face numerous constraints - internal (management skills, technology, etc.) as well as external (marketing, finance, taxation, corruption, street crimes, etc.). The premier constraint to SME growth is the availability of adequate finance.

This stems from the facts that:

- (a) There is a lack of reliable information on SMEs
- (b) Most of the SMEs do not have adequate collateral, and
- (c) Given the lack of complete & comparable information, and smaller amount (per deal) of fund requirements, the transaction cost of funding SMEs is excessively high, hence most institutions shy away from lending to SMEs.

Fortunately, internet technologies provide a feasible solution to these problems.

And e-finance is the key.

E-finance is Internet-mediated financial services. It enables cheaper, faster and more wider availability of an array of financial services to the SMEs in the developing countries.

## STAGE – 0: Database

KEY PLAYER: SME associations

TARGET: Searchable “live” database on SMEs

1. The availability of basic information on SMEs is the foundation of e-finance.
2. However, in most developing economies, there is no authentic data-base on SMEs.
3. Typically, there is a lack of systematic initiative by any organisation to develop the database. More often than not the measures do not reach the targeted segments, and are biased with political motives. However, the fault cannot be entirely attributed to the intent. Given the spread of SMEs, their diversity and the small level of operations, any enumerator would be foxed as to where-to-begin from, what information to collate, and how to direct questions so that the desired responses are received across the spectrum of regions/ dialects.
4. Add to it the fact that there is typically a substantial under reporting of income by the SMEs. They are wary of providing any information about their operations which has a financial hue. As a result, the real cost of primary data collation becomes very high.
5. For the SMEs in developing countries, the cost of hardware and the internet connection (onto the mother database) is also significant.
6. The solution lies in leveraging internet technologies and involving the SME associations to collate the basic data. The use of SME associations would have several advantages:
  - It would extend the reach to the farthest SME in the hinterland.
  - The data capturing (off/on-line internet based) terminals could be owned by the SME associations, hence the cost of collation (read, data-base access) would be lower.
  - Use of SME associations could put considerable peer-group pressure on SMEs to provide the base level data.
  - Since the SME associations understand the intricacies of business; they would be savvy enough to seek the financial information on the SMEs “segment-wise” (and not that of whole company). Thus, sufficient segment-wise aggregates could be obtained, as needed for policy decision-making without causing apprehension amongst the SMEs about the use of information for their own prosecution.
7. The policy initiatives required to make it happen are:
  - The government/SRO should lay down a uniform data-structure and the minimal SME information that needs to be captured.
  - The data should be available on an open public-access information.
  - The recognition of SME associations should be contingent on the association being able to provide a base-level data of the SMEs it claims to represent.
  - There should be fiscal incentives [say, exemption from taxation of partial or whole income of the SME association] for updation of the SME data each fiscal year. Government / multilateral institutions could provide soft loans / grants to initiate the process.
  - Encouragement to form a multi-tier large SME association structure.
  - Where needed, governments could form an apex nation-wide Director General Information, or put it as an additional charge to their respective population census departments.

*Thus, the country would be able to lay a solid foundation for the SME growth – by creating an open “searchable” database – with minimal outlay, not much time cost and a sense of community ownership.*

### STAGE – 1: eCulture Wave

KEY PLAYER: SME associations with governmental support

TARGET: Unique entity

Once the base level information collation is underway / available, the eCulture wave germinates. eCulture wave is the stage when increasingly higher number of people adopt open-ended internet for exchange of information. It is the beginning of e-finance stage.

1. The key impediments in adoption of eCulture are ignorance, high cost of internet / intranet access and the conservatism of SMEs. Innovative PULL strategies are required to break the shell. The SME association should use peer-group pressure, emulation, coaxing, and its power of aggregation. Many SME associations have been able to use their huge membership numbers to strike bargain deals / governmental concessions for the benefits of their constituents, providing their members positive incentives to join their SME association. [1] SME association need to assure the SMEs that the information provided would not be used to prosecute them for tax evasion / revenue leakage, etc.
2. SME association could be made responsible for verification of data provided by the SME.
3. Policy initiatives required to start & invigorate the eCulture are:
  - Most developing countries have large number of government owned / supported business organizations. A fiat should be issued to make it compulsory for the PSUs to collate basic information on all SMEs associated with it, and put it on an internet based open access system.
  - All industrial parks to have database of SMEs operating under their aegis to qualify for preferential fiscal treatment / recognition.
4. A unique identity for each SME unit is the catalyst for a successful SME movement. This is where an organisation such as UNCTAD can play a major role. An extremely simple to use ITC-based open identification system should be evolved. Most of the developing countries (especially where there is a lack of nationwide Social Security number) have multiple identification tags in the form of PAN, voter's identity card, passport number, driving license, etc. If these multiple identities are merged into one multi-purpose identity linked to (SME) database, substantial amount of funds could be saved. Smart cards could play an important role in this regard.
5. The entire SME-database should be open to public at large.
6. The progressive SME associations could facilitate voluntary submission of information of a higher order by SMEs and development of SME-specific web-pages. They could further the eCulture by organizing live on-line trade fairs, and taking-up the tasks of digital certification. [2]

*Thus, Primary level identity of SMEs would be established (duly authenticated by SME associations); eventually, each SME would be addressable: each SME would have a public profile.*

## STAGE – 2: eTrade

KEY PLAYER: Industry with SME association

TARGET: Credit history & tech ASP

*This is the most critical phase.*

1. The key impediment in the development of e-finance is the lack of credit history.
2. A dominant number of SMEs in developing countries, do not prepare proper (comparable) accounting records.
3. A pragmatic approach would be to fiat open access systems by the large scale enterprises (LSEs). Most of the business SMEs do is with LSEs. Hence, there is a need to force the LSEs to open the information system to their ancillary / vendor SME units (and subsequently to interface with financial service providers). Thus, an automatically “reliable” information on SME units would be generated, which would facilitate e-finance.
4. Where in a transaction, proprietary information is involved: an ASP model could be adopted. The SMEs could get access to the technical information, design & drawings on pay-per-use basis, thus acquiring competence which otherwise would be beyond their economic means. At the same time, this would generate authentic transaction records that could facilitate e-finance.
5. In case of PSUs [3] and other private sector large units, it should be compulsory to enlist the procurement tender information on the open-access internet based system. Also, wherever possible, their settlement should be made through electronic bill presentation & payment system [EBPP].
6. Where transactions take place *inter se* between SME units, the SME associations could do the task of capturing the information [onto the Stage-0 identity platform]. The feasibility of credit rating for SSI clusters, using the concept of “lead” unit or otherwise, could be explored.
7. Smart card technologies could be used to extend the benefits of e-finance to the areas that lack adequate banking infrastructure, and at the same time generate credible transaction / credit history[4].
8. With increasing adoption of WTO sponsored open-economy measures, such live databases / e-Culture could collate the critical information required to enforce anti-dumping measures. It would, to some extent, mitigate the loss of erstwhile monopoly of SMEs vis-à-vis neighborhood localities to the internet induced globalization.
9. With open access systems, it would be easy to adopt supply chain management (SCM) systems. It would also reduce out-sourced-product development cycle. Thus, e-Culture would enhance the competitiveness of SMEs.
10. The initiatives required by the respective governments would be in the form of strong anti-trust laws, clarity on e-Commerce taxation, fiscal incentives to establish SCM systems.

*Since most SMEs supply to LSEs, therefore if LSEs have open access systems, then automatically “reliable” information would be generated on the SMEs*

### STAGE – 3: eFinance

KEY PLAYER: Industry with financial sector

TARGET: Removal of financial constraints

E-Finance is *the Key*.

Once the basic authentic information on SME business is captured, and a base-level database on SMEs is available, it paves the way for launch of e-finance.

It may be noted that e-trade comes before e-finance.

The banking industry thrives on operational inefficiencies [floats and intermediation fees] that exist due to information asymmetry in the vendor-client relationship. It is estimated that e-finance would reduce the margins of financial services industry by almost 50% in several developing countries [5]. Given that the developing markets are typically price-sensitive, the incumbents will see pressures on their profits. Hence, the banking sector has inherent reservations in encouraging digital efficiencies. Therefore, in the short term, the major initiatives should come from the trade entities and not the banking sector.

*[See Annex-A: Projected impact of e-finance on bank's net interest margins, 2005-2010]*

However, in the medium term, the internet would enable substantial reduction in development and operational costs [6]. This would be spurred by the global reduction in tariff & non-tariff barriers, accelerated by WTO/TRIMS/TRIPS and powered by the ease of use of internet based standardized access / delivery mechanism across the national boundaries.

1. With internet based open access systems, basic *authentic* information on SMEs would be made available to the public at large. It could serve as an identification / quasi- credit appraisal database.
2. E-finance would reduce the processing cost substantially, reducing the ticket size of a profitable transaction, and thus increasing the availability of finance for SMEs.
3. In this regard, the larger SME associations could further enrich the Stage-0 identification-level systems, as well as, act as data collation & verification nodes, eventually becoming the preferred intermediaries for arranging financing. Some SME associations could also develop into self-help mutual benefit co-operatives, extending credit & counter guarantees for their members *inter se*, in a transparent manner.
4. The high transaction cost of financing SMEs can be mitigated by creating trusted digital marketplace & compulsory open access systems (on the line of HIPPA system in medical transcription in US).
5. At the national-level, developing countries have paucity of financial resources hence the optimal use of available funds is of paramount importance. The most critical financial constraint that the SMEs have is the lack of working capital. According to the Reserve Bank of India, Nayak Committee Report, total advances to SMEs approximate 8% of their turnover against the desirable level of 20%. The problem is not likely to be vastly different in other developing countries. This problem is compounded by the fact that the requisite huge amounts of funds are not available

in the economy for the said purpose. The solution lies in the open-access systems, especially of LSEs. It would enable the SMEs to know exactly when which component would be required. Hence, without a high degree of planning at its end, it would be able to significantly reduce the working capital requirements.

6. The other constraint SMEs face is the lack of collateral. With e-culture, authentic information on the business of the constituent SME would be available with exactitude *inter alia* number & value of goods / services supplied, time supplied, quality evaluation, payment cycle, and most significantly the SME unit historical track record thereon (the credit history). Hence, the banking system should not have problems in funding SMEs; especially given the fact that internet based financial information systems would considerably lower the working capital requirement itself. They would effectively be funding the LSEs (quasi-factoring).[\*]
7. Internet-mounted Electronic Data Interchange (EDI) would allow low-cost online real-time information exchange between LSE, SME & the financial service providers. The financing entity can continuously monitor asset quality (counterparties), change in outstanding receivables & the (uniquely identified) storage certificates, as inventory is sold and the receivables collected. It would induce transparency, while reducing the inherent risks & transaction costs. Thus, increase the availability of finance to SMEs at a lower cost [7].
8. An alternate system, sponsored by the government, could be the one on the lines of TradeNet of Singapore. TradeNet is a nationwide EDI which reduces costs and shortens the turnaround time for the preparation, transmission and processing of trade and custom declarations, from 2 days to just 2 minutes and with just one singular filing [8].
9. Finance costs (at the excessive rates charged by the informal sector) are a major cost component for many a SME. Lowering of working capital requirements coupled with much cheaper e-finance availability would be a double advantage and significantly reduce the cost matrix of the SME, hence that of the LSE. Thus, the cost structure of the entire economy takes a downward revision, making the economies cost competitive and reducing poverty.
10. The government could provide strong directions to boost industry-banking sector interface. For instance, it could mandate disallowance of expenditure (in computation of taxable revenues) on goods / services procured from SMEs which are not paid for within 30 days of delivery thereof. This would ensure that for its very survival, the LSE would capture SME data on internet-based open access database (capex of which could attract fiscal incentives) as well as facilitate the use of the data-captured by the financial services industry for credit appraisal & funding of ancillary SME units.
11. Positive fiscal incentives also need to be created to induce banking sector to trade inefficiency-based float income, in favor of larger volume of less risky e-finance biz.
12. In the developing countries, e-finance would mitigate the inadequacies in the banking system and the deficient means of contract enforcement.
13. E-finance would also ease medium term availability of funds for SMEs, through dematerialization and standardization of the debt papers (as mortgage loans). This would increase market depth & width, enable comparison and auction for optimal price discovery. [Check [www.advantagemortgage.com.hk](http://www.advantagemortgage.com.hk) & [www.dollardex.com](http://www.dollardex.com)]
14. E-finance would provide access to risk capital for SMEs. There exist 150+ SME equity funds with currently over USD 2 billion under management. Most of these funds have already taken the first step towards transparency and expeditious online

appraisals & disbursements. They provide basic details on their websites viz. investor profile/skill-set, funding criteria, boilerplate agreement of term-sheet, shareholders' agreement, an interactive application format etc. [For more details refer: [www.seafweb.org](http://www.seafweb.org) and [www.bulventures.com](http://www.bulventures.com) ]

Thus, e-finance promises a *low cost economy based on competitive & robust SMEs*.

Before concluding, it is necessary to look at the environment that could enable, facilitate & accelerate the e-finance transformation.

### *An Enabling Framework for e-finance*

Foremost, the governments of developing countries need a fundamental shift in focus from the current institution-based approach (with clustering of funds around traditional banks) to a function-based approach (wherein the focus is on how e-finance can be provided efficiently to the SMEs, regardless of the location or the entity).

*[Refer Annex-B: Towards a new paradigm for financial sector development]*

The key policy initiatives required of the governments are:

#### *1. Creating an enabling environment*

- (a) Regulatory framework for providing telecommunication services, including mandatory interconnection, unbundling of public switch telephone networks, VOIP, etc.

E-finance penetration tends to accelerate once a market has reached critical mass. With every one notch improvement in connectivity the online banking projected take-off is advanced by two years. By 2005 the share of online banking could rise from 1% to 10% in emerging markets, but with better connectivity, it could rise even further to 20% by 2005. For many developing countries with deficient financial systems, e-finance could allow financial services to be delivered from offshore, providing the additional benefits of international technology and experience.

*[Refer Annex-C: The takeoff point of online banking based on connectivity]*

- (b) Security framework and related public & private key infrastructure encompassing authentication, integrity, non-repudiation and confidentiality.
- (c) Standards for information & privacy, addressing the issues of notice, choice, access, and security
- (d) Framework for contract enforcement, credit risk assessments and market infrastructure. Dematerialization of pledged securities, smart cards, IP audit trails, etc. do help, but at the same time, new cross-border enforcement problems also germinate.

#### *2. Fostering a regulatory approach that lays emphasis on disclosure & related actions, to protect and educate investors and consumers*

It calls for maintaining a fine balance between the prevalent short run extensive safety nets and the desired long-term competition induced optimization, which in turn would make it easier for governments of developing countries to resist (costly) bail out of financial institutions. E-finance would also require a re-look at the definitions of disclosure & integrity, in the new paradigm.

3. *Focusing more on competition policy and smooth functioning of markets, with the desirable liberal entry & cross border transaction norms.*

Today, online trading has becoming a norm. Increased connectivity has accelerated the migration of e-finance markets from shallow emerging markets to a few highly liquid global financial centers [9]. At the same time, steps are required to mitigate the resultant increase in volatility and the overlaps between various e-finance players as stock-exchanges, alternate trading systems (ATS), order routing systems, and brokerage houses.

*[Refer Annex-D: Capital Migration - Shares owned, traded and listed abroad, 2000]*

4. *Finally, the form of government intervention*

E-finance would enable the governments to curtail direct efforts to provide financial services through the (costly route of) developmental banks, as well as, enable use of existing governmental infrastructure as conduit for delivery of private sector financial products [10].

To conclude, e-finance for SMEs is a reality. The conspicuous icons being - dedicated entities such as SMEloan (HongKong), PrideAfrica, and the specialized arms of commercial banks.

- SMEloan provides loans between HK\$ 200,000 to HK\$ 1,000,000 to Hong Kong based SMEs through its interactive portal, and manages credit risk using a Web-based risk management model. [[www.SMEloan.com](http://www.SMEloan.com)]
- PrideAfrica provides access to credit to more than 80,000 small-scale entrepreneurs in Kenya, Malawi, Tanzania, Uganda and Zambia vide its virtual information and service network called DrumNet. It also provides teller access, loan authorization, client identification and credit scorings of the SMEs, through its interface with Sunlink Cashpoints smart card system. [[www.prideafrica.com](http://www.prideafrica.com)]
- Numerous e-finance arms of commercial banks like Citibank (Hungary, Czech, and India), American Express, ICICI Bank (India), The Computerized Mobile Bank (Ghana), etc. have dedicated e-channels to provide e-finance to the SMEs. In India, CitiBusiness (e-finance arm) serves over 5,000 SMEs. [[www.citibusinessdirect.com](http://www.citibusinessdirect.com)]

As information about SMEs is pooled and credit history is generated, SMEs would migrate to more formal & economical modes of financing.

Historically, the adoption of newer technologies has been much faster in the developing world. Hence, e-finance should turn out to be a more effective tool to increasing SME competitiveness in developing countries (vis-à-vis the developed nations). E-finance could leverage the lack of legacy systems to leapfrog directly to internet-based open access systems & standards. E-finance would slash processing costs for providers of financial services and the search & switch costs for the SMEs. It would substantially lower the transaction costs and make financing feasible, cheaper & smoother for SMEs.

In sum, e-finance is the potent tool to overcome historical weaknesses of SMEs in developing nations (reliable information, collateral & transaction cost) for obtaining financing.

## References

- [1] A fine example is that of Uttar Pradesh (State of India) SME Association. It negotiated 10% discount to list price on Indica car for its members, ensuring minimum order of 50 cars. As a result, a number of SMEs signed up its membership and availed of immediate benefits, and (only then) appreciated the significance & need of the SME association.
- [2] Progressive SME associations have already taken a lead in this regard. FISME (Federation of Indian Small & Medium and Micro Enterprises) has signed an MOU with UN-G77 Chambers of Commerce - Trade Information Network to provide digital certificate. It has also tied up with Elcom of USA to create trusted digital market place for SMEs.
- [3] PSU = Public Sector Undertakings. Most developing countries have dominant governmental ownership of economic resources through PSUs.
- [4] In India, the success in use of smart cards by state governments [of Gujarat for driving license, of Kerala for public distribution & ration card, of Goa for social security, of Madhya Pradesh for vehicle registration, etc.] has spurred the central government to constitute a committee to evolve India-specific standards for smart card technology, to evolve a pan-India single smart card.  
  
In an another instance, 16 East and Southern African countries have adopted Mondex e-cash system. Its unique security architecture allows for person-to-person offline transfer of electronic cash, without centrally recording every transaction. The government of South Africa has taken a step further and linked these smart cards to its 2,000 post office bank counters. This interface will enable opening of virtual bank accounts and e-payments of federal government / municipality taxes, to financial institutions & credit cards, etc.  
  
*An excellent snap-shot on various programs using smart cards is provided in Annex 4a of 'E-finance Emerging Markets: Is Leapfrogging Possible?' by Stijn Claessens, Thomas Glaessner and Daniela Klingebiel. Financial Sector Discussion Paper No. 7, The World Bank, June 2001.*
- [5] E-finance would lead to much lower costs and greater competition in financial services, these developments will force banks to lower intermediation fees and commissions. In emerging markets, the margins would decline from 4.4% in 1997 to 3.9% in 2005, onto 2.5% by 2010. In some emerging markets, margins could fall by more than 50 percent by 2010. By the year 2010, total revenues (of financial sector) from brokerage and related asset management services, could be just one-third of what they are today.
- [6] For instance the marginal cost of internet banking is just a few cents compared to one dollar for a traditional brick-n-mortar bank branch.
- [7] In India, there is already a fierce competition amongst finance companies to provide (unsolicited) quotes for discounting bills of large established players [as Tata Engg. – the largest automobile company in India] using e-procurement, irrespective of vendor SME.
- [8] Balero.net, a joint venture of Society for Worldwide Interbank Financial Telecommunications, commercial banks, freight forwarders, and shipping companies, is another example of fully automated trade financing.
- [9] In the year 2000, the six largest emerging markets (in terms of capital raised) - Argentina, Brazil, China, India, Korea, and Mexico - raised some \$10 billion in offshore capital. Offshore trading in American depository receipts from these countries totaled \$180 billion. By 2000, about 19% of trading in emerging market securities was occurring offshore.
- [10] The Indian government is investing in high-speed (DSL/VSAT) Internet wiring to link its vast network of 154,000 post office branches with 110 million savings account holders. This infrastructure is being used to provide private sector financial services (including mutual fund unit & insurance distribution and e-cards), and thus promises to greatly expand e-finance services.

Annexes

- Annex-A Projected impact of e-finance on bank's net margins, 2005-2010
- Annex-B The new paradigm for financial sector development
- Annex-C The takeoff point for online banking based on level of connectivity
- Annex-D Shares owned, traded and listed abroad, 2000

**Annex-A: Projected impact of e-finance on banks' net interest margins, 2005-10**  
*Net interest income as a percentage of bank assets, with connectivity improvement*

Income group/economy	Net interest margin, 1997	Start of rapid growth	Net interest margin, 2005	Net interest margin, 2010
<b>Industrial country average</b>	<b>2.34</b>		<b>1.96</b>	<b>1.69</b>
<b>Emerging market average</b>	<b>4.39</b>		<b>3.85</b>	<b>2.50</b>
Argentina	4.20	2004	3.73	2.46
Brazil	7.76	2004	6.63	3.63
China	2.26	2004	2.14	1.82
Czech Republic	3.04	2004	2.77	2.07
Egypt	1.73	2004	1.71	1.64
Hong Kong, China	2.90	2001	2.26	1.73
Hungary	3.65	2004	3.28	2.28
India	2.89	2004	2.65	2.02
Korea, Rep. of	1.90	2003	1.80	1.66
Mexico	3.64	2004	3.26	2.27
Poland	5.50	2004	4.78	2.88
Russia	4.79	2004	4.21	2.65
South Africa	4.96	2004	4.34	2.70
Thailand	5.50	2004	4.78	2.88
Turkey	11.17	2004	9.41	4.75

*Note:* Assumes a level of connectivity in each emerging market equal to at least the level of the least advanced industrial country- that is, a rating of 6 (or better if their current rating is already higher).

*[Source: Table 5, E-finance Emerging Markets: Is Leapfrogging Possible? by Stijn Claessens, Thomas Glaessner and Daniela Klingebiel. Financial Sector Discussion Paper No. 7, The World Bank, June 2001]*

***Annex-B: Toward a new paradigm for financial sector development***

\$ Not important or not addressed  
 \$\$ Somewhat important  
 \$\$\$ Important  
 \$\$\$\$ Very important

Area	Current paradigm	New paradigm	Working groups
<b>Creating an enabling environment</b>			
Regulatory framework for telecommunications	\$	\$\$\$\$	\$\$
Security framework and public key infrastructure	\$	\$\$\$\$	\$\$\$
Framework for information and privacy	\$\$	\$\$\$\$	\$\$\$
Framework for contract enforcement	\$\$	\$\$\$\$	\$\$
Financial system laws that are institution specific	\$\$\$\$	\$\$\$	\$\$\$
Market infrastructure	\$\$\$\$	\$\$\$	\$\$\$
<b>Risks at the consumer, investor, and institution levels</b>			
Consumer protection	\$\$\$	\$\$\$\$	\$\$\$
Investor protection	\$\$\$	\$\$\$\$	\$\$\$
Prudential regulation	\$\$\$\$	\$\$\$	\$\$\$\$
<b>Markets - functioning, performance, and risks</b>			
Competition policy	\$\$	\$\$\$\$	\$
Functioning & volatility, regulations, transparency, access, liquidity (risks), disturbances, stress properties	\$\$\$	\$\$\$\$	\$\$
<b>Forms of government intervention</b>			
Dev. banks, public microlending inst. & directed credit	\$\$\$	\$\$	\$
Information provision & collateral inst.	\$\$\$	\$\$\$\$	\$
Modifying use of existing institutional infrastructure	\$\$\$	\$\$\$\$	\$

*[Source: Table 6, E-finance Emerging Markets: Is Leapfrogging Possible? by Stijn Claessens, Thomas Glaessner and Daniela Klingebiel. Financial Sector Discussion Paper No. 7, The World Bank, June 2001]*

***Annex-C: The takeoff point for online banking based on level of connectivity***

<b>Income group/economy</b>	<b>Current connectivity rating</b>	<b>Projected takeoff yr</b>	<b>Connectivity rating with connectivity improvement</b>	<b>Projected takeoff yr</b>
<b>Emerging markets</b>				
Argentina	6	2004	6	2004
Brazil	5	2006	6	2004
China	3	2010	6	2004
Czech Republic	5	2006	6	2004
Egypt	3	2010	6	2004
Hong Kong, China	8	2001	8	2001
Hungary	5	2006	6	2004
India	3	2010	6	2004
Korea, Rep. of	7	2003	7	2003
Mexico	5	2006	6	2004
Poland	5	2006	6	2004
Russia	5	2006	6	2004
South Africa	5	2006	6	2004
Thailand	5	2006	6	2004
Turkey	5	2006	6	2004

*Note:* Connectivity ratings are from the Economist Intelligence Unit and range from 0-10. Connectivity ratings combine ratings on computer ownership, internet hosts, mobile phone use, and other telecommunications connectivity criteria. For industrial countries the projected takeoff year is based on the typical pattern of penetration and the country's current level of penetration. For emerging markets the projected takeoff year is based on the country's current connectivity rating, with the projections based on a regression analysis using the industrial countries' projected takeoff year, where the regression line is estimated as  $2,014.6 - 1.71 * \text{Connectivity}$ .

*[Source: Table 4, E-finance Emerging Markets: Is Leapfrogging Possible? by Stijn Claessens, Thomas Glaessner and Daniela Klingebiel. Financial Sector Discussion Paper No. 7, The World Bank, June 2001]*

**Annex-D: Capital migration: Shares owned, traded, and listed abroad, 2000**

Percent

<b>Region/economy</b>	<b>Share of foreign ownership</b>	<b>Share of foreign value</b>	<b>Share listed in traded NY or London</b>
<b>Latin America</b>	<b>24</b>	<b>54</b>	<b>53</b>
Argentina	10	65	65
Brazil	28	43	63
Chile	13	55	46
Colombia	5	8	13
Mexico	42	58	48
Peru	9	59	24
Venezuela	62	73	44
<b>Asia</b>	<b>7</b>	<b>7</b>	<b>18</b>
China	4	14	46
India	11	14	29
Indonesia	12	10	16
Korea, Rep. of	17	5	24
Philippines	11	14	17
Taiwan (China)	6	2	22
Thailand	12	0	0
<b>Europe, Middle East, and Africa</b>	<b>15</b>	<b>60</b>	<b>50</b>
Hungary	32	5	54
Israel	29	90	78
Poland	14	2	13
Russia	14	13	88
South Africa	14	24	55
Turkey	10	1	13
<b>All emerging markets</b>	<b>13</b>	<b>19</b>	<b>38</b>

Source: Goldman Sachs Research estimates.

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