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Le Principe De Partage Des Profits Ou Des Pertes Dans Le Cadre Des Banques Islamiques : Illustration Modélisée Des Contrats De Financement Participatifs Moudaraba Et Moucharaka

By Elmelki Anas

Résumé - Les opérations bancaires islamiques se fondent sur le principe de l'interdiction de l'intérêt, de l'incertitude, de la spéculation et du marché secondaire de la dette. Elle favorise plutôt les activités de production créatrices de valeurs ajoutée se rattachant directement à la sphère réelle et la prise de risque comme une condition nécessaire pour la réalisation du profit. Ainsi, les banques islamiques n'agissent pas comme de simples prêteurs, mais elles s'impliquent activement dans les opérations de commerce en exerçant la propriété direct des actifs tangibles et les opérations d'investissement à travers le principe de partage des profits ou des pertes qui favorise le partenariat et un partage plus équitable du risque entre les diverses parties prenantes à l'activité bancaire islamique. De ce fait la banque islamique est appelé également banque participative vue qu'elle assure la fonction d'intermédiation avec un rôle de financement actif via les conseils et l'assistance dans les prises de décisions des entreprises financés.

Mots clés : banques islamiques, financements participatifs, Moudaraba, Moucharaka, asymétrie

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LE PRINCIPE DE PARTAGE DES PROFITS OU DES PERTES DANS LE CADRE DES BANQUES ISLAMIQUES ILLUSTRATION MODLIS DES CONTRATS DE FINANCEMENT PARTICIPATIFS MOUDARABA ET MOUCHARAKA

Strictly as per the compliance and regulations of:

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Mots clés : banques islamiques, financements participatifs, Moudaraba, Moucharaka, asymétrie *d'information, taux de partage des profits ou des pertes.*

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I. Introduction

La finance islamique, qui implique l'absence d'intérêt, est devenue, au cours de ces quarante dernières années, une activité d'envergure. Toutefois, elle reste relativement peu connue et peu expérimentée même par les musulmans du milieu professionnel de la finance. Au mieux, cette connaissance reste limitée au principe de l'interdiction du taux d'intérêt, et au pire elle alimente, par ignorance les prés jugements négatifs. Le rejet de la variable taux d'intérêt des pratiques bancaires islamiques est une idée révolutionnaire dans la théorie d'intermédiation bancaire.

Pour un observateur extérieur, dans la vision de l'Islam, ce qui frappe de prime abord est le rôle des normes et de leurs applications, ou encore l'évolution de l'islam au cours des vingt à trente dernières années avec l'émergence de certains courants extrémistes[1] Cela amène certains à considérer qu'Islam et modernisme sont antinomiques, et qu'Islam est synonyme de faible développement économique, voire de régression économique et sociale. Dans son article intitulé "Religion and Economic Performance"[2], Marcus Noland, montre qu'à un niveau de développement économique donné, l'Islam ne réduirait pas la croissance mais plutôt la favoriserait. Dans la pratique, l'islam est loin d'être monolithique. La place laissée à l'interprétation par les autorités religieuses des textes de la loi islamique est un phénomène qui doit être compris pour bien appréhender la relation entre finance et islam.

[1] L'Islam est la religion du juste-milieu et de la modération, c'est la religion qui combat et interdit l'extrémisme. *"Et aussi Nous avons fait de vous une communauté de justes pour que vous soyez témoins aux gens, comme le Messager sera témoin à vous"* Coran Sourate 2 : Al-Baqarah, verset 143.

[2] Marcus Noland [2005] "Religion and Economic Performance" World Development Vol. 33, No. 8, pp. 1215–1232, 2005 Published by Elsevier.

Après plus de quatre décennies de leur naissance, les banques islamiques se sont positionnées comme des institutions qui ne jouent pas uniquement un rôle important dans la mobilisation et l'allocation des ressources mais elles sont activement intégrées dans les économies des pays respectifs où elles opèrent[3].

Le financement islamique est considéré comme un compartiment de l'investissement éthique et socialement responsable d'une part et également comme une innovation financière d'autre part. L'importance du volume des opérations bancaires islamiques, reflété dans le taux de croissance de leurs actifs qui dépasse 10% par an depuis le début des années 1990[4], impose un besoin de s'attarder sur leurs modes de fonctionnement essentiellement la logique participative sur la quelle se base la fonction d'intermédiation financière qui est une fonction de base partagée par les deux systèmes bancaires, islamique et conventionnel. Conceptuellement les opérations bancaires islamiques se fondent sur le principe de la prise de risque comme une condition nécessaire pour la réalisation du profit. Egalement, l'obligation que toute transaction financière doit être adossée à un actif tangible rend la finance islamique au service de l'économie réelle et établit un lien intime entre la sphère réelle et la sphère financière et monétaire. Ainsi, les banques islamiques se présentent comme une forme de banque moderne pour laquelle le processus d'intermédiation financière est basé sur un certain nombre de principes juridiques et légaux de la loi islamique[5] qui privilégient les méthodes de partages des risques et des profits au lieu du financement basé sur la variable taux d'intérêt. Par conséquent, il existe un partenariat entre, d'une part, les déposants et la banque islamique et d'autre part entre les entrepreneurs investisseurs et la banque islamique.

La raison d'être des banques, qu'elles soient islamiques ou pas, est la maximisation du profit, et afin de réaliser cet objectif ultime les moyens et les techniques employés par les banques conventionnelles et les banques islamiques varient du fait que ces deux types de banques différent dans leurs philosophies et leurs principes de fonctionnement.

De point de vue islamique, la monnaie ne présente aucune valeur propre en elle-même, celle-ci ne doit constituer qu'un moyen d'échange et n'est génératrice de revenus que quand elle est conjuguée à un effort et un partage de risque.

En vertu des enseignements de la loi islamique, ces banques et institutions financières ne sont pas autorisées à recevoir des intérêts sur les fonds qu'elles mettent à la disposition de leurs clients, ni à rémunérer leurs dépôts sur la base d'un taux d'intérêt. En revanche, et pour assurer la fonction d'intermédiation elles ont développé toute une gamme de produits et services financiers fondés sur une logique contractuelle qui rejette la variable taux d'intérêt et assure plutôt la rémunération par marges et commissions ou par le partage des profits dans le cadre des contrats participatifs.

Ce travail s'inscrit dans le cadre de l'étude d'un phénomène relativement nouveau pour l'industrie bancaire. Il s'agit de la naissance des banques islamiques avec une logique d'intermédiation atypique, des structures, des produits et des modes de fonctionnement tout à fait nouveaux.

II. Les cinq Piliers De La Finance Islamique[6]

La finance islamique est une forme d'innovation financière avec de nouvelles techniques de financement qui présentent des spécificités particulières. La finance islamique, et en particulier les banques islamiques, se proposent de financer les projets socialement responsables et économiquement performants. Lors de leurs processus d'intermédiation financière, les banques islamiques doivent se conformer à cinq principes[7] que nous pouvons scinder en trois interdictions et deux obligations.

a) Les trois interdictions

<u>L'interdiction de l'intérêt</u> : Le prêt à intérêts est considéré comme de l'usure (*Al-Riba*)[8]. La conception islamique de l'investissement n'interdit pas de réaliser des profits, qui sont synonymes de création de valeurs ajoutées, mais cette même conception ne permet pas de générer des profits à partir des opérations financières intégrant les taux d'intérêt qui sont considérés comme des coûts à supporter quelque soit l'issue de l'investissement. En cas de perte, les taux d'intérêt représentent plutôt une destruction de la valeur. Par conséquent, le partenariat entre prêteur et emprunteur et le partage équitable aussi bien des gains

[3] Martin Čihák and Heiko Hesse [2008] "Islamic Banks and Financial Stability: An Empirical Analysis". IMF Working paper Monetary and Capital Markets Department WP/ 08/ 16.

[4] Estimation de l'agence de rating Standard&Poor's selon laquelle le total des actifs compatibles à la Charia au niveau mondial s'élève à 700 billion$ avec un taux de croissance annuel dépassant les 10% durant la dernière décennie. Islamic Finance outlook. www.standardandpoors.com www.gcc.standardandpoors.com

[5] Fouad Adbelmounim Ahmed [2002]. "La politique législative islamique ses rapports avec le développement économique et ses applications contemporaines". Institut Islamique de Recherche et de Formation N°24 1ére édition 2002 ISBN 9960-32-134-7.

[6] Anouar Hassoune VP-Senior Credit Officer Paris, Khaled Howaladar VP-Senior Credit Officer Dubai International Financial Centre, April 2008 "Islamic Banks and Sukuk: Growing Fast, but Still Fragmented" pp3 Rating Methodology Report Number: 108331 Moody's Global Banking www.moodys.com

[7] Anouar Hassoune VP-Senior Credit Officer Paris Moody's Global Credit Research: "Risk Issues at Islamic Financial Institutions" Special Comments January 2008.

[8] Le Prophète Med (SAWS) « *Sera maudit par Dieu celui qui prend l'usure, celui qui a donné, le greffier du contrat usuraire, ainsi que les témoins de ce contrat* ».

que des pertes concrétisent le principe de justice sociale. Egalement le processus de création et de distribution des richesses dans l'économie représente les niveaux de productivité réelle. Dans ce cadre le bailleur de fonds ne peut pas retirer d'avantages sous forme d'intérêts de son financement, sauf si cet avantage est librement accordé par l'emprunteur et sans en constituer une condition tacite ou explicite.

L'interdiction du Gharar[9] et du Maysir : Le degré d'incertitude ou de risque se rattachant à une transaction ne doit pas être excessif tel que la conclusion du contrat ou son exécution soit susceptible d'être compromise. Ainsi, les termes contractuels doivent être les plus clairs possibles et ne comportant aucune ambiguïté. La loi islamique favorise alors la transparence entre les diverses parties prenantes à une transaction en veillant à fournir toute l'information nécessaire avant la conclusion d'un contrat. Le hasard (*Al-Gharar*) comprend les activités qui ont un élément d'incertitude, d'ambiguïté ou de déception dans les termes contractuels. Dans un échange commercial, le *Gharar* réfère au caractère aléatoire et flou de l'échange ou de l'une de ses composantes, aux tromperies ou à une ignorance sur l'objet du contrat (l'incertitude sur les matières, nature du bien, ses caractéristiques, son prix ….). La vente "*Gharar*" est celle où il y a incertitude quant à l'objet (son existance), sa quantité, ou s'il sera possible de le livrer ou non. Le "*Gharar*" est interdit s'il affecte la légalité d'une transaction. Par exemple, les contrats d'assurance traditionnels sont la plupart du temps considérés contraires à la loi islamique car le montant du remboursement (indemnité) est incertain (n'est pas connu) et dépend de la survenance d'événements spécifiques et aléatoire dans le futur (moment où le paiement se fera est inconnu : survenance du sinistre). La loi islamique a clairement interdit toutes les transactions, qui causent l'injustice sous n'importe quelle forme à l'une des parties du contrat. Il peut être sous forme de risque ou péril menant à l'incertitude dans n'importe quelles affaires, fraude ou avantage anormal[10]. L'Islam condamne également la spéculation (*Al-Maysir*) tout pari sur l'avenir ou toute forme d'arrangement entre parties où le droit des contractants dépend d'un événement aléatoire. C'est notamment ce principe que l'on retrouve dans les jeux de hasard et les paris avec mise. Egalement les contrats d'assurances traditionnelles présentent des éléments de *Maysir* du moment que l'assuré paie une prime de faible montant dans l'espoir d'encaisser des sommes d'indemnité largement supérieurs. Dans le même ordre d'idée l'assuré ne bénéficie pas des primes payées au cas où le sinistre ne se réalise pas. La spéculation est interdite car elle divertit les individus des activités productives et favorise éventuellement l'accumulation de richesses sans effort. Il est également considéré comme immoral que l'un fasse un profit au détriment d'un autre (exploitation). Ainsi, les systèmes de vente à découvert, les produits dérivés : options, swaps, sont interdits dans un système financier islamique. Toutefois il n'existe pas un cadre référentiel en terme de critères permettant de juger si une transaction présente un élément de gharar ou maysir, une analyse au cas par cas s'impose.

L'interdiction d'investissement non éthique ou illicite : l'interdiction d'investir dans des activités interdites par l'Islam comme l'alcool, le tabac, l'armement, la prostitution, le porc, les casinos, les jeux d'argents et toute entreprise dont le levier financier taux d'endettement serait considéré comme excessif > 30%[11].

Les produits financiers islamiques représentent donc une classe d'actifs qui peut attirer les investisseurs à la recherche d'investissements éthiques et socialement responsables.

b) B- Les deux obligations

L'obligation de partage des profits ou des pertes : le principe de partage des profits ou des pertes a été présenté comme une alternative à l'élimination de la variable taux d'intérêt du processus de l'intermédiation financière bancaire. Les parties prenantes à l'activité bancaire sont dans l'obligation de partager les risques et par conséquent les profits ou les pertes et encourent ainsi un certain degré de risque afin de légitimer la rémunération issue du projet d'investissement. En référence à ce principe, la finance islamique est appelée également Finance Participative. Ce principe signifie qu'un contrat ne doit pas être conclu de façon à ce que l'ensemble de ses clauses serait en faveur d'une seule des parties contractantes. Ainsi, les termes contractuels doivent être équitables afin d'éviter les positions d'abuse de force de l'une des parties contractuel pour parvenir à la réalisation de la cohésion de la communauté. Cela rend nécessaire le partage des risques et par conséquent le partage des profits ou des pertes concrétisé par les arrangements sous forme de partenariats en vue de la conclusion de transactions commerciales ou financières.

Adossement de toute opération financière à un actif tangible : Toute opération financière doit être adossée à des actifs réels et tangibles. L'existence d'un actif sous-jacent permet d'établir le lien entre la sphère réelle et la

[9] Dhareer, Siddiq al- (1997), "Al-Gharar in Contracts and its Effects on Contemporary Transactions", Jeddah: Islamic Research and Training Institute.

[10] El-Gamal, M. (2001). "An Economic Explication of the Prohibition of Gharar in Classical Islamic Jurisprudence," Islamic Economic Studies, 8(2).

[11] Anouar Hassoune VP-Senior Credit Officer Paris, Khaled Howaladar VP-Senior Credit Officer Dubai International Financial Centre, Moody's Global Credit Research: "The Benefits of Ratings for Islamic Financial Institutions and What They Address" Special Comment February 2008.

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sphère financière. En effet il s'agit d'un système attaché à l'économie réelle favorisant ainsi l'instauration d'une économie plus stable[12] basée sur une sphère financière intimement relié à la sphère réelle.

III. Modele Islamique De Financement[13]

La banque islamique une fois qu'elle dispose des fonds collectés, elle doit les allouer efficacement dans des projets économiquement performants et socialement responsables tout en évitant la variable taux d'intérêt. Les banques islamiques assurent le financement en utilisant principalement deux méthodes. La première méthode s'applique aux opérations de partage des profits ou des pertes. Dans ce cas, la rémunération n'est pas fixée à l'avance mais dépend des résultats réalisés en aval de l'opération de financement. La seconde s'applique aux opérations de ventes/location de biens sur la base d'une marge fixe, la rémunération de la banque dans ce cas est une partie du prix de vente.

a) Opérations de type participatif[14]

Ces opérations consistent en la mise en place de partenariats. Ces produits sont plus assimilables à des opérations de capital risque de type *private equity*. Les titulaires de comptes d'investissement sont assimilés à des actionnaires de la banque islamique dont ses activités doivent se baser essentiellement sur des opérations d'investissement réelles. Le principe de 3P (Partage des Profits ou des Pertes) se concrétise essentiellement via deux types de contrats qui répondent pleinement aux exigences de la *Charia* et qui sont les contrats de Moudaraba et Mousharaka. Il s'agit de transactions où les parties impliquées partagent les pertes et les profits des activités dans lesquelles elles s'engagent.

i. *Moudaraba (Capital risque ou contrat d'agence)*

Ce terme désigne le contrat conclu entre d'une part un ou plusieurs investisseurs ((*RabElmel)* le principal, le bailleur de fonds ou propriétaire du capital) qui fournissent le capital et un entrepreneur qui assure le travail nécessaire pour fructifier ces fonds (*Moudareb* ou l'Agent). Les profits dégagés de cet investissement sont partagés selon une clé de partage prédéterminée.

Suivant cette définition, la banque islamique peut intervenir, soit en tant que *Moudareb* si son rôle consiste à placer et rentabiliser les capitaux pour le compte des investisseurs, soit en tant que *RabElmel* si elle vient de participer à une opération de financement. Dans le cadre du premier rôle ci-dessus mentionné, l'intervention de la banque en tant que *Moudareb* s'effectue sans recours sur elle (excepté en cas de négligence), le risque de perte étant supporté par les investisseurs (détenteurs de comptes d'investissement) et le profit est partagé entre ceux-ci et le *Moudareb* (banque islamique dans ce cas) selon une formule pré agréée. Le contrat de *moudaraba* se présente, dans la pratique, sous deux formes :

- Le contrat de *moudaraba* limitée appelé également Dépôt Participatif Affecté (DPA) c'est un contrat qui porte sur une opération de financement précise (projet bien déterminé) ;
- Le contrat de *moudaraba* illimitée, appelé également Dépôt Participatif non Affecté (DPNA) dans ce cas le *Moudareb* est libre dans le choix des investissements qu'il entreprend et qu'il juge rentables et il n'est pas tenu d'informer les investisseurs de ses choix d'investissements.

Dans le cadre d'un contrat de financement Moudaraba la banque islamique finance totalement le projet et le client lui apporte son travail, son expertise et son savoir faire dans une activité productive en échange du partage des profits à réaliser selon un certain pourcentage. Le droit et la responsabilité de la gestion de l'activité reviennent entièrement à une seule des parties à savoir l'entrepreneur (partenariat passive de la banque islamique dans ce cas). Les bénéfices résultant du projet sont répartis suivant des proportions convenues à l'avance après que l'investisseur récupère son capital et que les frais de gestion de l'entrepreneur ont été acquittés. En cas de perte, qui ne sera pas due à une faute ou à une mauvaise gestion, c'est la banque qui assumera le préjudice et plus précisément le client (déposant) à travers les comptes d'investissement et l'entrepreneur (financié par la banque islamique) ne perdra que sa rémunération éventuelle concrétisée par le temps et l'effort investis dans l'entreprise.

Le contrat de moudaraba favorise la justice à travers le principe de 3P. En effet, si après l'investissement des fonds l'opération ne dégage pas de bénéfices, les pertes sont supportés en totalité par le bailleur de fonds (*RabElmel le principal*) sauf en cas de négligence du *Moudareb* (Agent) qui sera responsable d'une partie ou de la totalité des pertes si sa négligence est prouvée. Alors qu'en cas de gains l'agent (*Moudarib*) est rémunéré par une partie des gains ainsi réalisé. La justice se concrétise dans le fait que le gain du bailleur de fonds (*RabElmel*) représente la rémunération de son capital tandis que la rémunération du *Moudarib* (agent entrepreneur) représente la

[12] Martin Čihák and Heiko Hesse [2008] "Islamic Banks and Financial Stability: An Empirical Analysis". IMF Working paper Monetary and Capital Markets Department WP/ 08/ 16.

[13] Annexe 01 Schéma général du financement des banques islamiques. A1-Tableau 01 Récapitulation des modes de financements de la firme bancaire islamique.

[14] Hennie van Greuning and Zamir Iqbal [2008] "Risk Analysis for Islamic Banks" The World Bank Washington, D.C.The International Bank for Reconstruction and Development / The World Bank 1818 H Street NW Washington DC 20433 Telephone: 202-473-1000 Internet: www.worldbank.org

contrepartie de son effort fournie (travail) tout les deux associé à un certain degré de risque encouru .

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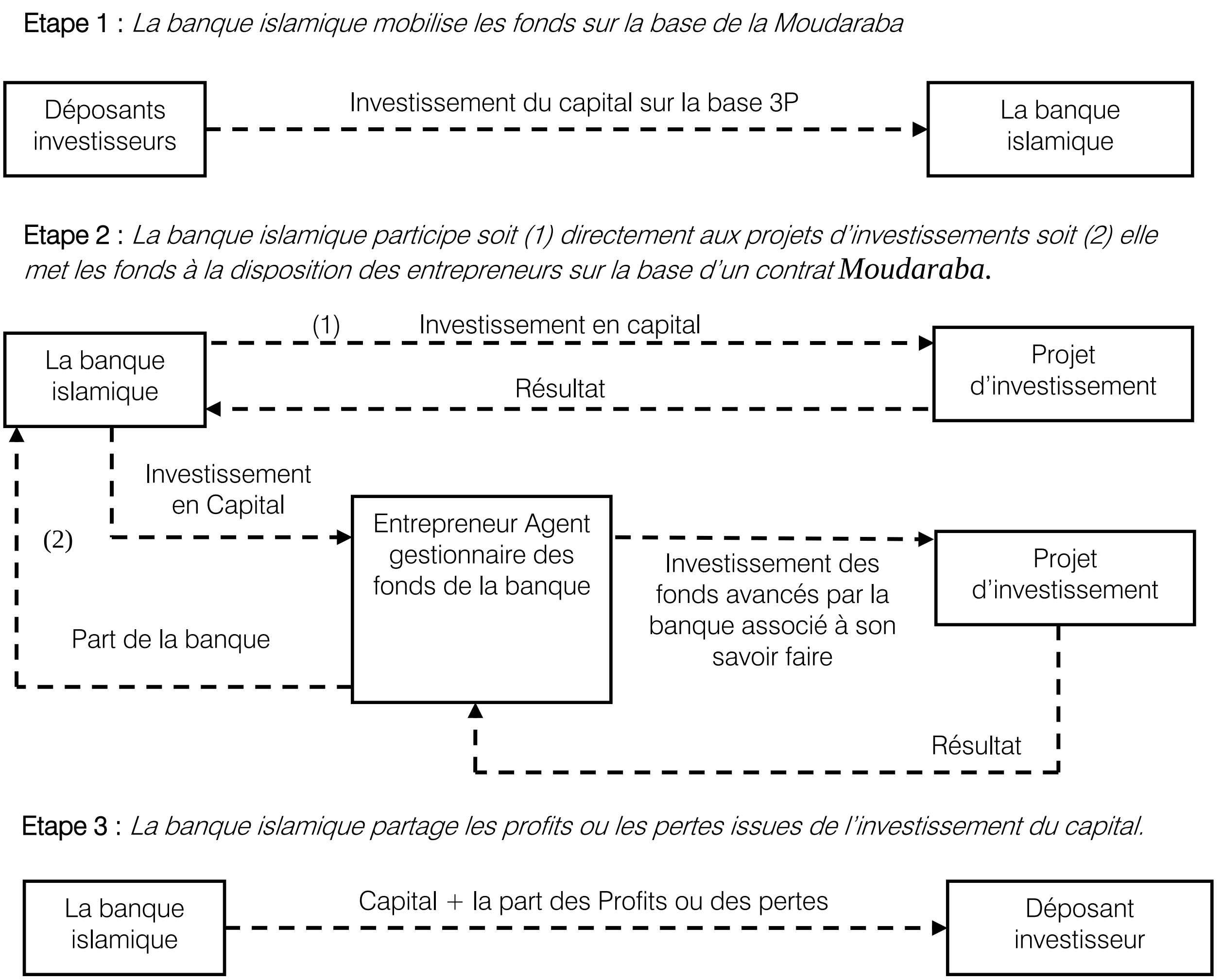
Figure 01 : Le financement par Moudaraba



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a. La pratique du contrat moudaraba par les banques islamiques

La moudaraba est pratiquée par les banques islamiques en deux sens (*moudaraba two tiers)*, ce qui leurs permet d'assurer une intermédiation proche de celle des banques conventionnelles. Selon cette approche, la banque joue à la fois le rôle d'investisseur et d'entrepreneur. Du côté du passif, en tant que *moudarib*, elle gère des dépôts qui lui sont confiés par ses clients. Du côté de l'actif, elle assure une meilleure allocation des fonds ainsi collectés en les mettant à la disposition d'autres investisseurs

- D'abord dans le sens client (déposant) - banque islamique : la relation qui lie la banque islamique et ses clients dépositaires sera basée sur un contrat Moudaraba. Autrement dit, la rémunération des clients déposants ne se fait pas en fonction d'un taux d'intérêt fixé d'avance sur le capital mais plutôt elle sera basée sur la participation aux résultats de la banque. Ainsi, le client déposant, dans ce cas, est le bailleur de fonds (*RabElmel le principal*) et la banque, compte tenu de son expérience et de son savoir faire est désormais l'agent *Moudarib.*
- Ensuite, dans le sens banque islamique – client (entrepreneur) : La banque islamique participe dans certains projets viables qui lui sont soumis par les clients ayant le savoir faire et dépourvus de capitaux. Elle y participe en fournissant tout le capital requis et partage les profits générés par cet investissement. Dans ce cas, la banque islamique est le bailleur de fonds (*le principal*) et le client entrepreneur est l'agent (*Moudarib*).

b. Relation entre banque islamique et entrepreneur

Nous essayons de présenter à travers ce modèle[15], qui ignore l'existence d'impôts sur le revenu, les niveaux des taux de partage des profits ou des pertes à fixer par la banque islamique pour être compétitive et gagner au moins ce que gagne une banque conventionnelle. Sous quelles conditions les banques islamiques peuvent attirer des entrepreneurs qui ne sont pas véhiculés uniquement par des motifs religieux et les inciter à opter pour un financement islamique ?

1) Modèle illustratif à une seule période du financement par contrat Moudaraba

L'entrepreneur ne choisira pas la modalité de financement participatif que si le profit dégagé, après déduction de la part de la banque islamique, sera supérieur au profit généré s'il aura à traiter avec une banque conventionnelle et rembourser ainsi le principal de l'emprunt augmenté de ses charges financières (intérêts).

<u>Pour l'entrepreneur</u>

$$(1-T_{ppp})\tilde{P} \geq \tilde{P} - rD - \alpha D$$

T_{ppp} : Taux de partage des profits ou des pertes

$\tilde{P}$: Profit à réaliser de la période

D : montant de l'emprunt contracté

r : Taux de l'intérêt

αD : Fraction de la principale de la dette à rembourser ;

Pour le modèle à une seule période α = 1.

$$T_{ppp} \leq \frac{D}{\tilde{P}}(r+\alpha)$$

<u>Pour la banque islamique</u>

En supposant que le profit à réaliser $\tilde{P}$ peut être anticipé ou calculé approximativement, les négociations entre la banque islamique et l'entrepreneur se focaliseront sur le niveau de T_{ppp} et par conséquent la banque islamique ne sera pas libre à fixer un niveau de T_{ppp} qui ne prendra pas en considération les intérêts de l'entrepreneur qui risque de préférer le financement conventionnel.

$$T_{ppp}\tilde{P} \geq rD + \alpha D$$

$$T_{ppp} \geq \frac{D}{\tilde{P}}(r+\alpha)$$

A l'équilibre $T_{ppp} \quad \frac{D}{\tilde{P}}(r+\alpha)$

Pour le modèle à une seule période α = 1.

$$T_{ppp}\tilde{P} \geq rD + \overline{\overline{D}}$$

$$T_{ppp} \geq \frac{D}{\tilde{P}}(r+1)$$

A l'équilibre $T_{ppp} \quad \frac{D}{\tilde{P}}(r+1)$

Stratégies des banques islamiques vis à vis des réalisations de profits :

La banque islamique accordera plus d'importance à la crédibilité des anticipations des profits. Les anticipations optimistes des profits, seront favorables à l'entrepreneur et la banque aura un taux de partage moindre. Statistiquement parlant, la banque islamique doit diminuer les différences de variabilité entre le profit réellement réalisé et celui anticipé, et obtenir ainsi une variance $V(\tilde{P}) = 0$.

Plus les anticipations des banques islamiques seront optimistes plus elles auront un impact négative sur leurs niveaux de profitabilité. Par conséquent nous pouvons dire que la stratégie de la banque islamique est basée sur la réduction de la valeur estimée des profits (sous estimation des profits). Contrairement à cette logique, l'entrepreneur fonde sa stratégie sur une logique de sur estimation des profits.

Nous pouvons distinguer trois scénarios possibles selon le rapprochement ou l'éloignement des valeurs estimés des valeurs réellement réalisés du profit.

- **Premier scénario : la valeur estimée du profit $\tilde{P}$ coïncide avec la valeur réellement réalisée du profit :**

C'est le cas du contexte de certitude $\tilde{P} = \pi$ Dans ce cas : $T_{ppp} = \frac{D}{\pi}(r+1)$

L'entrepreneur est indifférent de la source de financement (islamique ou conventionnelle).

- **Deuxième scénario : la valeur estimée du profit $\tilde{P}$ est supérieure à la valeur réellement réalisée du profit :**

Dans ce cas $\tilde{P} > \pi$

Le taux $T_{ppp} = \frac{D}{\tilde{P}}(r+1)$ est fixé de façon prédéterminé sur la base d'un niveau de profit anticipé $\tilde{P}$, mais si la banque islamique connaissait que le niveau de profit se limiterait à $\pi < \tilde{P}$ elle aurait fixé un taux de partage :

[15]Nous nous sommes basés sur l'idée de Hassoune Anouar qui propose un modèle simple de comparaison de rentabilité des banques islamiques et banques conventionnelles, mais nous avons développé une autre logique valable pour le cadre d'analyse du contrat de financement participatif Moudaraba. Hassoune Anouar (2003), « La Solvabilité Des Banques Islamiques: Forces et Faiblesses », Revue d'Economie Financière n° 72.

$$T_{ppp} = \frac{D}{\pi}(r+1) > T_{ppp} = \frac{D}{\tilde{P}}(r+1)$$

Dans ce cas, le financement participatif sera favorable à l'entrepreneur. Mais la banque rate l'opportunité de réaliser des profits additionnels si elle surestime les niveaux de profits à réaliser par l'entrepreneur.

- Troisième scénario : la valeur estimée du profit $\tilde{P}$ est inférieure à la valeur réellement réalisée du profit :

Dans ce cas $\tilde{P} < \pi$

Le taux $T_{ppp} = \frac{D}{\tilde{P}}(r+1)$ est fixé de façon prédéterminé sur la base d'un niveau de profit anticipé $\tilde{P}$, mais si la banque islamique connaissait que le niveau de profit dépassera $\tilde{P}$ $\pi > \tilde{P}$ elle aurait due fixée un taux de partage :

$$T_{ppp} = \frac{D}{\pi}(r+1) < T_{ppp} = \frac{D}{\tilde{P}}(r+1)$$

Dans ce cas, l'entrepreneur va voir le montant de ses revenues diminuer ce qui peut l'inciter à faire recours aux financements auprés des banques conventionnelles du moment qu'il se rend compte que le financement participatif réduira son niveau de profit.

Des trois scénarios exposés précédemment, nous pouvons conclure qu'il n'est pas dans l'intérêt de la banque islamique de fixer des conditions qui s'avèrent plus rigides que celles fixées par les banques conventionnelles.

Position de négociation de l'entrepreneur et la banque islamique :

Nous avons pu comprendre de ce qui précède que c'est dans l'intérêt de l'entrepreneur qu'il favorise les anticipations les plus optimistes même en sachant que le profit qu'il réalisera sera inférieur au niveau déclaré à la banque islamique lors de la demande de financement.

Une fois le niveau de profit réalisé s'avère inférieur à l'anticipation, l'entrepreneur cédera une part des profits à la banque islamique, et qui sera certainement inférieur au montant des charges financières (somme des intérêts) et du principal de l'emprunt contracté et payé à la banque conventionnelle. Par conséquent, la banque islamique doit être vigilante et rigoureuse en traitant avec les anticipations de l'entrepreneur parce que l'objectif de ce dernier est d'atteindre le minimum possible du taux de participation dans les profits ou les pertes.

En étudiant les dossiers des entrepreneurs, la banque islamique envisage les anticipations les moins optimistes, en se basant sur la position de l'entrepreneur. En d'autre termes la banque islamique doit fonder sa stratégie en supposant que le profit réellement réalisé sera largement inférieur à celui anticipé par l'entrepreneur parce que si l'entrepreneur était sure des niveaux élevés des profits il aurait, peut être, choisi le financement conventionnel.

Nous ne pouvons pas considérer que le financement participatif représente le refuge des entrepreneurs les moins efficients parce qu'en cas d'échec du projet et la réalisation des pertes, l'entrepreneur supportera une partie de ces pertes, et qui se concrétise dans son effort fournis et son temps consacré qui ne seront pas rémunérés.

Lors de l'analyse précédente, nous avons supposés la réalisation du profit et nous avons ignoré le cas de l'échec du projet et les pertes inhérentes.

Nous avons également ignoré l'impact de la variable religieuse contrairement à la réalité qui montre l'importance de cette variable et son influence sur les décisions d'investissement. Cela ne veut pas dire que l'investisseur musulman n'est pas rationnel et les banques islamiques doivent prendre en considération la rationalité des investisseurs et doivent fournir un effort en matière de Recherche et Développement et d'ingénierie financière afin de les satisfaire. Cette analyse du choix de financement et des investisseurs a été effectuée dans un contexte qui suppose l'existence d'un système bancaire dual où la concurrence est de plus en plus intense non pas uniquement entre les banques islamiques mais également entre banques islamiques et banques conventionnelles qui viennent confronter les banques islamiques dans leurs propres terrain en offrant à leur tour des produits et des services financiers compatibles avec la *Charia*.

2) Modèle multi périodique avec “P” constante jusqu'à l'infini :

T_{ppp} : Taux de partage des profits et des pertes est supposé être constant

α : Fraction du principal de la dette à rembourser ; α est constante amortissement constant donc α = 1/n

r : Taux de l'intérêt constant.

D_i : Capital restant due avec i = 1,2,….,n

$$D_1 = D$$

$D_2 = D - \frac{1}{n}D$; $D_3 = D - \frac{2}{n}D$; $D_4 = D - \frac{3}{n}D$ et

$$D_n = D - \frac{(n-1)}{n}D$$

Période 1 :

$$(1-T_{ppp})\tilde{P}_1 \geq \tilde{P}_1 - rD_1 - \frac{1}{n}D$$

Période 2 :

$$(1-T_{ppp})\tilde{P}_2 \geq \tilde{P}_2 - rD_2 - \frac{1}{n}D$$

Période 3 :

$$(1-T_{ppp})\,\tilde{P}_3 \geq \tilde{P}_3 - rD_3 - \frac{1}{n}D$$

Et

Période n :

$$(1-T_{ppp})\,\tilde{P}_n \geq \tilde{P}_n - rD_n - \frac{1}{n}D$$

En faisant la somme des termes des deux cotés de l'inéquation nous obtenons :

$$(1-T_{ppp})\sum_{i=1}^{n}\tilde{P}_i \geq \sum_{i=1}^{n}\tilde{P}_i - r\sum_{i=1}^{n}D_i - \sum_{i=1}^{n}\frac{1}{n}D_i$$

Le niveau des taux d'intérêt affecte le taux de rendement des contrats de financement participatifs ainsi que les rémunérations des comptes participatifs [(Chong&Liu (2009); Rachmawati&Syamsulhakim (2004); Kaleem&Mansoor (2003); Sudin&Norafifah (2000); Haron & Schanmugan (1995)][16]. La majorité des études révèlent une corrélation significative entre la fluctuation de la valeur des taux d'intérêt et la variabilité des taux de partage des profits et des pertes des banques islamiques.

Les banques islamiques ne se basent pas exclusivement sur le modèle *de moudaraba*, malgré qu'il constitue la concrétisation de la logique de financement participatif sur laquelle se base la banque islamique. Mais sur le plan pratique[17], le financement par contrat moudaraba représente une part minime dans l'ensemble des activités des banques islamiques cela est dû essentiellement au degré de risque élevé qui émane des problèmes d'asymétrie informationnelle et qui engendrent un coût de gestion plus élevé que celui engagé par les banques conventionnelles.

3) Modèle illustratif du niveau d'effort et les problèmes d'incitation dans le cadre du contrat *Moudaraba*

Dans le cadre de l'allocation des fonds, le contrat de *Moudaraba* est intimement lié aux problèmes d'agence. En effet la banque islamique ne peut pas forcer l'entrepreneur à effectuer des actions qu'elle juge appropriées (le niveau optimum d'effort à fournir). Selon ce contrat, la rémunération de l'entrepreneur prend la forme d'un pourcentage prédéterminé du revenu total du projet. Ce schéma de payement n'offre pas d'incitation à l'entrepreneur pour qu'il fournisse le niveau d'effort nécessaire afin de maximiser le profit. Ainsi, l'effort fournit par l'entrepreneur égalise sa part du revenu marginal au lieu du revenu marginal total de l'effort.

En construisant un modèle simple les problèmes incitatifs associés au contrat *Moudaraba* seront discutés dans ce qui suit :

Dans le cadre de financement participatif par contrat *Moudaraba* l'entrepreneur reçoit $(1-T_{ppp})$ du profit net π alors que la banque reçoit T_{ppp} du profit net π .

L'entrepreneur peut choisir le niveau d'effort (e) qu'il fournira et la banque islamique ne peut pas contrôler ce niveau d'effort. Elle observe uniquement le résultat de cet effort qui se concrétise dans du profit net π. Pour simplifier le modèle quelques hypothèses s'avèrent essentiels :

- Le profit net dépend exclusivement du niveau d'effort fourni par l'entrepreneur $\pi = f(e)$. $\pi(e)$ est une fonction croissante de l'effort avec taux marginal décroissant. Plus l'effort fourni par l'entrepreneur est élevé plus le niveau de profit augmentera. La fonction $\pi(e)$ est continue strictement croissante dérivable et concave.
- L'entrepreneur est neutre au risque, si non s'il était averse au risque il optera pour un salaire fixe (un poste de travail). Cette hypothèse implique que la fonction d'utilité de l'entrepreneur dépend de ce qu'il va recevoir comme revenu et de ce qu'il va fournir comme effort.
- L'univers d'analyse de la production est certain il existe une relation positive entre l'effort et l'output.
- Notre analyse est axée sur le niveau d'effort et non pas sur le partage des risques.

$$\pi'(e) \geq 0 \qquad \pi''(e) \leq 0 \qquad \pi(e=0) = 0 \qquad (1)$$

A partir du moment où l'entrepreneur signe le contrat et s'accorde avec la banque sur le taux de partage, son soucis sera de maximiser son utilité compte tenue de son niveau d'effort fournie (e) :

$$\underset{(e)}{Max}\ (1-T_{ppp})\,\pi(e) - a\,e \qquad (2)$$

Avec $(1-T_{ppp})\,\pi(e)$ la part de l'entrepreneur dans le profit net réalisé $\pi(e)$

[16] Sudin, H., Norafifah, A (2000), "The effet of conventional interest rates and rate of profit on funds deposited with islamic banking system in Malaysia", International Journal for Islamic Financial Sercvices, 1 (4).
Haron, S., Shanmugam, B. (1995), The Effects of Rates of Profit on Islamic Bank's Deposits: A Note, Journal of Islamic Banking and Finance, 12 (2), pp. 18-28.
Kaleem. A., Mansor. Md Isa (2003), Causality relationship between Islamic and conventional banking instruments in Malaysia, International Journal of Islamic Financial Services, 4(4).
Erna Rachmawati, Ekki Syamsulhakim, [2004], "Factors Affecting Mudaraba Deposits in Indonesia", Working Papers in Economics and Development Studies (WoPEDS), 2004-04, Department of Economics, Padjadjaran University, revised Aug 2004.
Chong B. S., Liu M.H., (2009), Islamic Banking: interest free or interest based, Pacific Basin Finance Journal, N°17, pp 125-144.

[17] Annexe 02 : Distribution Globale des modes de financement islamique 2008 (1000 USD$) : Le volume des contrats Moudarabah + Mousharakah ne dépasse pas 1.28% du volume total des opérations de financements islamiques dans le processus d'allocations des fonds.

et a = la désutilité marginal de l'effort qui est supposé être constante.

La maximisation de l'utilité de l'entrepreneur est donnée par les conditions du premier ordre :

$$(1-T_{ppp})\pi'(e) - a = 0 \Leftrightarrow \pi'(e) = \frac{a}{(1-T_{ppp})} \quad (3)$$

La banque islamique s'intéresse également à sa part de revenu son problème est comme suit :

$$\underset{(e)}{Max}\ (T_{ppp})\ \pi(e) \quad (4)$$

Cela donne en condition de premier ordre :

$$(T_{ppp})\ \pi'(e) = 0 \Leftrightarrow \pi'(e) = 0 \quad (5)$$

Toutefois, le niveau de l'optimum social est maximisé une fois le taux de revenu marginal égalise le coût marginal (coûts de désutilité) :

$$\underset{(e)}{Max}\ \pi(e) - a\,e \quad (6)$$

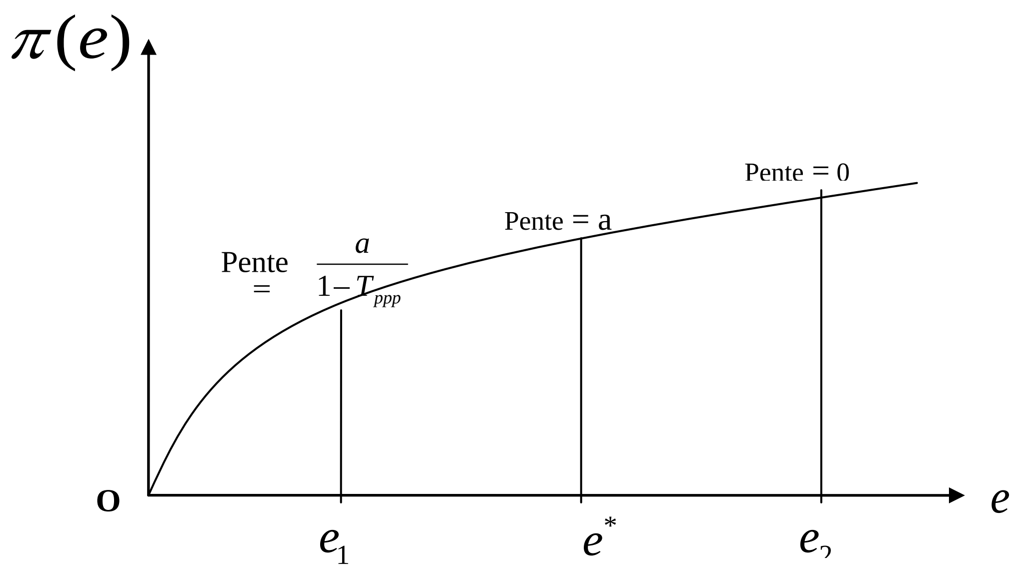
Cela donne

$$\pi'(e) - a = 0 \Leftrightarrow \pi'(e) = a \quad (7)$$

Cela implique que l'entrepreneur maximisera son utilité en égalisant son coût marginal de désutilité à son revenu marginal et non au revenu marginal social. Cela signifie que l'entrepreneur ne va pas fournir le niveau optimum d'effort pour parvenir au niveau de l'optimum social de revenu.

Cela peut être illustré dans la figure suivante :

Figure 02 : Niveau d'effort, incitation et profit



Les problèmes d'agence et d'asymétrie d'information ne sont pas sensés être se posés dans un contexte de financement islamique qui se base sur des convictions morales et religieuses des diverses parties prenantes[18] dont chacune d'entre elles traite les autres parties avec sincérité et loyauté, aime pour eux ce qu'elle aime pour elle-même. La concrétisation de ces convictions morales et religieuses minimisera les coûts de transactions. Mais le problème est que les valeurs éthiques et religieuses ne sont pas toujours au rendez vous et même leurs applications et leurs compréhensions ne sont pas homogènes.

ii. *Moucharaka (Capital investissement : participation en joint-venture ou copropriété)*

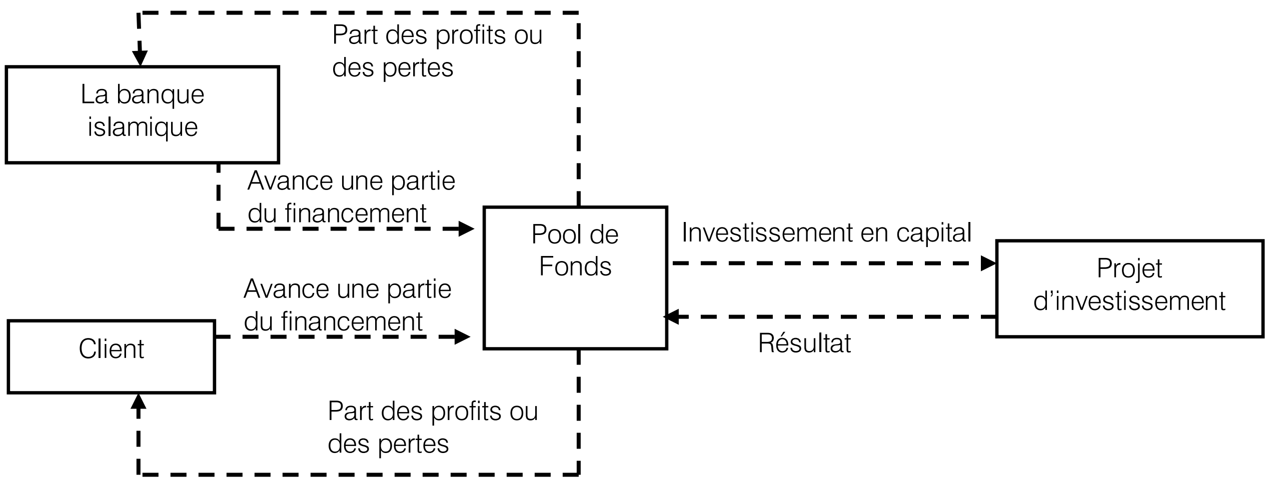
La *moucharaka* (partenariat actif) est un contrat entre deux parties (ou plus) pour le financement d'un projet dont les pertes ou les profits sont distribués au prorata des contributions respectives au capital. Ce contrat est basé sur la moralité du client, la relation de confiance et la rentabilité du projet ou de l'activité financée.

La clé de partage des profits ou des pertes est déterminée au moment de la signature du contrat. Ainsi le taux de partage peut être fixé soit sur la base de négociation et de consentement mutuel (thèse de

[18] Les parties prenantes Stakeholders ne doivent pas être forcément des Musulmans. Le fait que le non-musulman ne partage pas la même foi que le musulman ne signifie pas que le musulman doit être méprisable vis-à-vis de lui, bien au contraire, il doit bien se comporter envers lui équitablement tant par la parole que par l'acte. L'équité est la base des divers rapports avec les non musulmans.

l'école Hanbalite et Hanafite[19]), soit sur la base de la mise de chacune des parties contractantes (thèse de l'école Malikite et Chaféite[20]). Dans un montage Moucharaka, la banque islamique et l'entrepreneur contribuent tous deux, à différents degrés au capital nécessaire au démarrage d'une activité. La contribution au capital peut se faire soit par apport en numéraire ou/et en nature. Ce contrat confère à chacun des associés le droit d'administrer les affaires de la société, ainsi que le droit de participer aux bénéfices ou aux pertes proportionnellement à leurs apports. Les parties contractantes assument conjointement les risques. La moucharaka peut être pratiquée par les banques islamiques dans le sens client déposant – banque islamique ou bien dans le sens banque islamique- client entrepreneur. D'une part, dans le cadre de la relation client déposant - banque islamique qui est régie par un contrat moucharaka, le client participe au résultat de la banque islamique et en reçoit une partie en fonction du montant qu'il a avancé. D'autre part, la relation entre banque islamique et client entrepreneur, et qui est régit par un contrat du type moucharaka, vise essentiellement à financer un projet d'investissement jugé rentable et compatible aux principes de la finance islamique. Les fonds ainsi nécessaires font l'objet d'un apport des deux parties contractantes qui seront solidaires en cas de perte et partageront les profits si l'issue de cet investissement est un gain.

Figure 03 : Le financement par Moucharaka



Il n'y a pas une forme unique de *moucharaka* mais plutôt plusieurs variantes et de nouvelles modalités pourraient être imaginées. Les classifications peuvent être faites par exemple selon les degrés de participation au capital et nous pouvons distinguer à ce niveau deux cas. Le premier cas est celui où toutes les parties associées contribuent initialement avec les mêmes proportions, et jouissent des mêmes privilèges, et reçoivent (assument) la même part dans les profits (pertes). Le second cas est celui où les parties associées contribuent différemment au capital nécessaire pour entreprendre le projet. Par conséquent, leurs droits et leurs parts dans le bénéfice seront également différents.

L'engagement des fonds sous un contrat de moucharaka, prend trois aspects différents :

- Une participation permanente au capital des entreprises.
- Une participation dégressive au capital des entreprises.
- Une participation temporaire dans une opération déterminée.

a. Participation permanente au capital des entreprises

Cette participation peut prendre plusieurs formes : la participation d'une banque dans le capital d'une entreprise en cours de création ou encore une société déjà existante. Ainsi, une société en participation se forme entre la banque et le propriétaire de l'entreprise. La participation de la banque au financement du projet de façon durable lui permet de recevoir régulièrement une part des bénéfices en sa qualité d'associé copropriétaire. Il s'agit en l'occurrence pour la banque d'un emploi à moyen ou long terme de

[19] Il existe principalement quatre écoles juridiques islamiques faisant autorité pour déterminer ce qui est ou n'est pas conforme à la Charia. L'école Hanafite et Hanbalite sont plutôt conservatrice ils prévalent essentiellement au moyen orient pays de golf.

[20] L'école Chaféite prévaut dans les pays sud est asiatique et l'école Malikite prévaut en Afrique du nord. Ces deux écoles sont plutôt libérales.

ses ressources stables (fonds propres, dépôts participatifs affectés et non affectés...). L'apport de la banque peut revêtir la forme d'une prise de participation dans des sociétés déjà existantes, d'un concours à l'augmentation de leur capital social ou la contribution dans la formation du capital de sociétés nouvelles (achat ou souscription d'actions ou de parts sociales). Ce type de Moucharaka correspond dans les pratiques bancaires classiques aux placements stables que les banques effectuent pour aider à la constitution d'entreprises ou tout simplement pour la prise de participation dans des entreprises existantes.

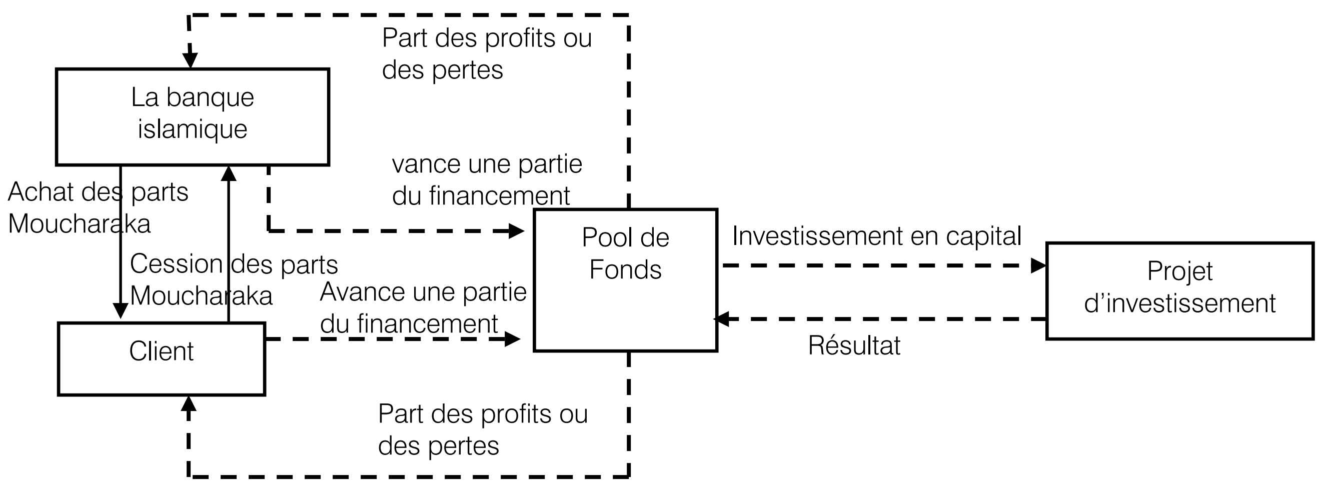
b. Participation dégressive au capital des entreprises

La Moucharaka décroissante est une variante de la Moucharaka. Il s'agit d'une technique pour laquelle la participation initiale du financier dans le projet d'investissement à base de Moucharaka diminue au fur et à mesure que sa part de contribution dans la Moucharaka est transférée à la société et que son investissement initial est remboursé, ainsi que la rémunération éventuelle y afférente.

Dans ce cadre, la banque islamique participe au financement d'un projet ou d'une opération avec l'intention de se retirer progressivement du projet. Le contrat de financement Moucharaka par participation dégressive, donne la possibilité pour les associés de récupérer la totalité du capital en remboursant la quote-part de la banque progressivement par cession d'une partie ou de la totalité de leurs dividendes sur une période déterminée.

La banque vendra à terme ses parts dans le capital à l'entrepreneur et se retirera définitivement du projet. Ce type de contrat de financement avec association par participation dégressive, stipule une vente graduelle de la part de la banque à l'entrepreneur. Ce dernier peut régler le prix de ces parts, en cédant soit une partie de son bénéfice, soit la totalité de celui-ci.

Figure 04 : Le financement par Moucharaka dégressive



Modélisation de la participation dégressive et acquisition du capital par l'entrepreneur en fin de période

Soit C le capital nécessaire pour entreprendre le projet

$C_E = B$: contribution de l'entrepreneur au Capital

$C_{BI} = K = N{*}B$ contribution de la banque islamique au Capital.

Avec N : coefficient de proportionnalité de K par rapport à B, $N > 1$.

$C = C_E + C_{BI} \Leftrightarrow C = (N+1)\,B$

Nous considérons l'hypothèse de réinvestissement des profits avec deux cas :

1. Le projet rapporte un revenu constant périodiquement annuel.
2. Le projet rapporte un revenu variable d'une année à une autre.

Premier cas[21] : Soit $P_1 = P_2 = P_3 = \ldots\ldots = P_n = P$. le profit de la période : année.

Et supposons que la partie du profit revenant à l'entrepreneur est proportionnelle à sa part détenue dans le capital.

Première année : la partie du capital détenu par l'entrepreneur est : $C_{E1} = B$

[21] Boualem Bendjilali & Tariqullah Khan Economics Of Diminishing Musharakah [Research Paper No:31] First edition 1995 1416H *Islamic Research and Training Institute*, Islamic Development Bank. Jeddah - Saudi Arabia.

La partie du profit à la disposition de l'entrepreneur

$$R_1 = \frac{P}{N+1}$$

Deuxième année : la partie du capital détenu par l'entrepreneur est :

$$C_{E2} = B + \frac{P}{N+1} = B(1 + \frac{P}{(N+1)B})$$

La partie du profit à la disposition de l'entrepreneur :

$$R_2 = \frac{P}{N+1}(1 + \frac{P}{(N+1)B})$$

Troisième année : la partie du capital détenu par l'entrepreneur est :

$$C_{E3} = B(1 + \frac{P}{(N+1)B}) + \frac{P}{N+1}(1 + \frac{P}{(N+1)B})$$

$$= (B + \frac{P}{N+1})\ (1 + \frac{P}{(N+1)B})$$

$$= B\ (1 + \frac{P}{(N+1)B})^2$$

La partie du profit à la disposition de l'entrepreneur :

$$R_3 = \frac{P}{N+1}(1 + \frac{P}{(N+1)B})^2$$

De façon générale nous pouvons écrire : la partie du profit à la disposition de l'entrepreneur à la période j s'écrit sous la forme suivante :

$$R_j = \frac{P}{N+1}\left[1 + \frac{P}{(N+1)B}\right]^{j-1} \qquad (1)$$

Nous supposons que la part de l'entrepreneur dans le profit total est entièrement réinvestit dans le projet sous forme d'acquisition d'une partie du capital se matérialisant en actions de son partenaire à savoir la banque.

On note C_{Ej-1} la contribution de l'entrepreneur au capital à la période j-1 et R_{j-1} la part de l'entrepreneur dans le profit qui sera réinvesti à la période j.

La contribution totale de l'entrepreneur au capital C à la période j :

$$C_{Ej} = C_{Ej-1} + R_{j-1}$$

$$C_{Ej-1} = C_{Ej-2} + R_{j-2}$$

Ce qui fait : $C_{En} = C_{E1} + \sum_{j=1}^{n-1} R_j$ (2) avec

$$C_{E1} = B$$

Comme la part de l'entrepreneur dans le profit total augmente et celle de la banque diminue chaque année, cela renseigne sur un changement dans la structure de propriété.

Lorsque le projet appartiendra en totalité à l'entrepreneur à la période j sa part de profit égalisera la totalité du profit dégagé par le projet. En d'autre terme nous devrons avoir l'égalité suivante :

$$\frac{R_j}{P} = \frac{\frac{P}{N+1}\left[1 + \frac{P}{(N+1)B}\right]^{j-1}}{P} = 1$$

$$\Leftrightarrow \left[1 + \frac{P}{(N+1)B}\right]^{j-1} = N+1$$

$$\Leftrightarrow (j-1)\log\left[1 + \frac{P}{(N+1)B}\right] = \log(N+1)$$

$$(j-1) = \frac{\log(N+1)}{\log\left[1 + \frac{P}{(N+1)B}\right]} \qquad (3)$$

L'équation (3) renseigne sur le temps nécessaire pour l'entrepreneur afin de racheter la totalité du projet. En d'autre terme lorsque P augmente le temps nécessaire pour que le projet appartienne en totalité à l'entrepreneur diminue. En dérivant (3) par rapport à P :

$$\frac{\partial(j-1)}{\partial P_1} = -\frac{\log(N+1)}{\left(\log\left[1 + \frac{P}{(N+1)B}\right]\right)^2} * \frac{1}{P + B(N+1)} \qquad (4)$$

Le signe négatif de l'équation (4) illustre la relation inverse entre la période j et le niveau de profit P.

<u>**Deuxième cas**[22] **:**</u> Le projet rapporte un revenu variable d'une année à une autre.

Soit $P1 \neq P2 \neq P3 \neq \ldots Pj \ldots \neq Pn$ le profit de la période année.

Et supposons que la partie du profit revenant à l'entrepreneur est proportionnelle à sa part détenue dans le capital.

Première année : la partie du capital détenu par l'entrepreneur est : $C_{E1} = B$

La partie du profit à la disposition de l'entrepreneur :

$$R_1 = \frac{P_1}{N+1}$$

[22] Extension du premier cas, notre propre travail.

Deuxième année : la partie du capital détenu par l'entrepreneur est :

$$C_{E2} = B + \frac{P_1}{N+1} = B(1+\frac{P_1}{(N+1)B})$$

La partie du profit à la disposition de l'entrepreneur :

$$R_2 = \frac{P_2}{N+1}(1+\frac{P_1}{(N+1)B})$$

Troisième année : la partie du capital détenu par l'entrepreneur est :

$$C_{E3} = B(1+\frac{P_1}{(N+1)B}) + \frac{P_2}{N+1}(1+\frac{P_1}{(N+1)B})$$

$$= B\left[(1+\frac{P_1}{(N+1)B}) + \frac{P_2}{B(N+1)}(1+\frac{P_1}{(N+1)B})\right]$$

$$= B\left[(1+\frac{P_1}{(N+1)B})\,(1+\frac{P_2}{B(N+1)})\right]$$

La partie du profit à la disposition de l'entrepreneur :

$$R_3 = \frac{P_3}{N+1}\left[(1+\frac{P_1}{(N+1)B})\,(1+\frac{P_2}{B(N+1)})\right]$$

Quatrième année : la partie du capital détenu par l'entrepreneur est :

$$C_{E4} = B\left[(1+\frac{P_1}{(N+1)B})\,(1+\frac{P_2}{B(N+1)})\right] + \frac{P_3}{N+1}\left[(1+\frac{P_1}{(N+1)B})\,(1+\frac{P_2}{B(N+1)})\right]$$

$$R_4 = \frac{P_4}{N+1}\left[(1+\frac{P_1}{(N+1)B})\,(1+\frac{P_2}{B(N+1)})(1+\frac{P_3}{(N+1)B})\right]$$

De façon générale nous pouvons écrire : la partie du profit à la disposition de l'entrepreneur à la période j s'écrit sous la forme suivante :

$$R_j = \frac{P_j}{N+1}\prod_{i=1}^{j-1}(1+\frac{P_i}{(N+1)B}) \qquad (1)$$

Nous supposons que la part de l'entrepreneur dans le profit total est entièrement réinvestit dans le projet sous forme d'acquisition d'une partie du capital se matérialisant en actions de son partenaire à savoir la banque.

On note C_{Ej-1} la contribution de l'entrepreneur au capital à la période j-1 et R_{j-1} la part de l'entrepreneur dans le profit qui sera réinvesti à la période j.

La contribution totale de l'entrepreneur au capital C à la période j :

$$C_{Ej} = C_{Ej-1} + R_{j-1}$$

$$C_{Ej-1} = C_{Ej-2} + R_{j-2}$$

Ce qui fait : $$C_{En} = C_{E1} + \sum_{j=1}^{n-1} R_j \qquad (2)$$ avec

$$C_{E1} = B$$

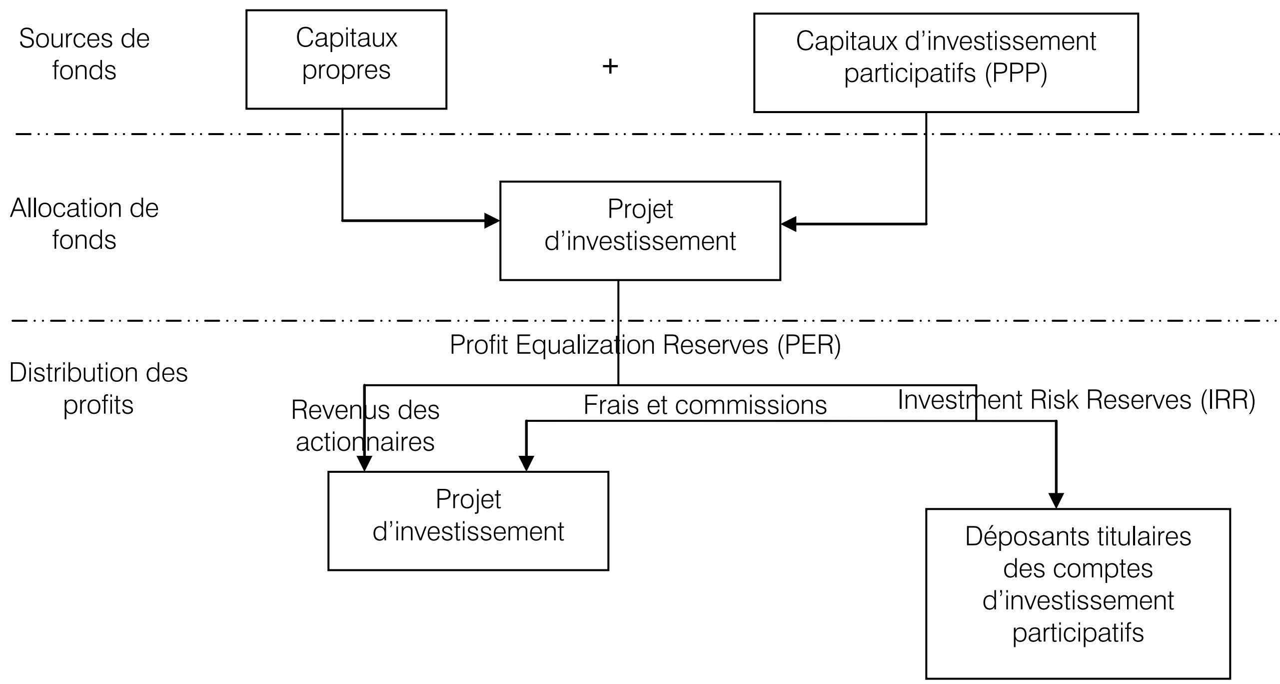
Lorsque le projet appartiendra en totalité à l'entrepreneur à la période j sa part de profit égalisera la totalité du profit dégagé par le projet. En d'autre terme nous devrons avoir l'égalité suivante :

$$\frac{R_j}{P_j} = \frac{\frac{P_j}{N+1}\prod_{i=1}^{j-1}(1+\frac{P_i}{(N+1)B})}{P_j} = 1$$

$$\Leftrightarrow \prod_{i=1}^{j-1}(1+\frac{P_i}{(N+1)B}) = N+1$$

De ce qui précède, le niveau du profit généré par le projet d'investissement conditionne la contribution de l'entrepreneur dans le capital. Ce qui l'incite à augmenter son niveau d'effort et par conséquent son niveau de productivité et de profit afin de disposer de la totalité du capital dans le cadre du contrat de financement participatif dégressif et qui se présente comme un moyen incitatif afin de résoudre les problèmes d'agence rencontré lors des contrats participatifs moucharaka en impliquant l'entrepreneur dans le projet via les part de capital.

Figure 05 : Place des comptes participatifs dans le processus d'intermédiation bancaire islamique



La rémunération de la banque, loin de constituer une charge financière fixe, elle est une contribution variable directement liée au résultat d'exploitation. En cas de résultat déficitaire, non seulement la banque ne peut prétendre à une quelconque rémunération, mais elle est également tenue d'assumer sa quote-part dans la perte en sa qualité d'associé. Par conséquent une importance majeure est accordée à l'étude des risques et de la rentabilité des projets et opérations objet de ce type de financement.

iii. *Les banques islamiques et les modes de financement participatifs*

La pratique bancaire islamique révèle la non popularité des contrats de financement de type *Moudaraba* et que les modes de financement non participatifs (*Mourabaha, Ijara, Salam, Ist'isnaa*) sont plus répandus au détriment des modes participatif. Cela est du essentiellement aux problèmes d'hasard moral qui entachent ce type de contrat. Par conséquent le succès de mode de financement participatif dépendra en grande partie de la résolution des problèmes d'asymétrie informationnelle qui y sont associés. Ce qui nécessite la prise en considération dans les termes contractuels des mesures incitatives.

L'intermédiation financière renforce l'efficience du processus d'épargne/investissement grâce à la réduction des coûts de transaction et à l'élimination des incompatibilités dans les besoins des agents à surplus et ceux à déficit de financement dans une économie. Du moment que les épargnants et les investisseurs sont souvent des agents différents, les uns ont besoin d'un volume important d'informations sur les autres. De telles informations ne sont pas gratuites. Par suite, le processus d'acheminement des fonds des épargnants vers les investisseurs implique des coûts de transaction. De plus, compte tenu de l'asymétrie informationnelle, ce processus soulève des questions de sélection adverse et de risque moral. Les intermédiaires financiers peuvent bénéficier d'économies d'échelle et réduire ainsi les coûts de transactions dans le transfert des fonds des agents excédentaires à ceux déficitaires. Egalement, ils sont bien placés pour faire face aux problèmes découlant de l'asymétrie de l'information.

Il existe une grande différence entre un contrat de financement de type participatif et un contrat de financement par dette classique. Les banques islamiques dépassent l'intermédiation financière pure dans son sens traditionnel et prennent des participations directes dans des projets d'investissement via le taux de partage des profits ou des pertes. Comment elles arrivent à surmonter et dépasser les problèmes incitatifs ?

Contrat Moudaraba et relation Principal Agent

La théorie de l'agence et des incitations s'est essentiellement développée au cours des années soixante-dix, avec les travaux de Ross (1973) et Jensen et Meckling (1976). Elle s'intéresse à la relation d'agence qui s'établit entre un principal (mandant) et un

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agent (mandataire). Cette théorie englobe toute relation contractuelle, même implicite entre deux parties, telle que la situation de l'une dépende de l'action de l'autre.

Par sa nature, le contrat de *Moudaraba* préconise la séparation entre propriété et décision. Il régule des situations où les actions et l'effort fourni par l'entrepreneur affectent le bien-être de la banque et dans un second tour le client déposant (détenteur de compte d'investissement). Par conséquent le contexte de Principal Agent s'avère adéquat pour analyser les particularités de ce type de contrat. D'un point de vue pratique, les problèmes d'asymétrie d'information et les problèmes de Principal Agent s'interfèrent. La partie initiative est celle qui cherche à réduire cette asymétrie en envisageant certaines mesures dans notre cas la banque islamique.

En effet, dans le contrat de *Moudaraba* la banque agit comme le Principal du moment qu'elle fournisse les fonds à l'entrepreneur qui agit à son tour comme agent ne possédant aucune part dans le projet. Il fournit uniquement son effort et son savoir faire nécessaires pour le bon déroulement du projet. Le revenu issu du projet d'investissement sera partagé entre les deux parties selon T_{ppp} : Taux de partage des profits ou des pertes. Ce n'est pas toujours possible pour la banque islamique de contrôler et vérifier parfaitement (sans engager des coûts élevés) les actions de l'entrepreneur une fois le contrat est signé. Cela ne fait que favoriser les conflits d'intérêts entre les deux parties. Plus précisément, dans le cadre du contrat *Moudaraba* un entrepreneur malhonnête peut être incité via des mauvais comportements à distordre la réalité et déclarer ainsi un niveau moindre de profit pour se procurer la part la plus grande des gains.

Egalement ce qui peut aggrave les problèmes d'asymétrie d'information dans le cadre des contrats participatifs de types *Moudaraba* nous pouvons citer:

- La non exigence de garanties dans certaines opérations de financement islamiques tel que la *Moudaraba* et la *Moucharaka* risque d'aggraver les problèmes d'agences.
- L'incapacité des banques islamiques de contrôler ou de forcer l'entrepreneur à se conformer à certaines convictions ou à entreprendre certaines actions post-contractuelles incite ce dernier à ne pas fournir le niveau optimal d'effort.
- L'obligation incombant aux banques islamiques de supporter certaines charges inhérentes à l'échec des projets financés en mode participatif. En effet, ces contrats participatifs (*Moudaraba*, *Moucharaka*) sont relativement risqués avec la difficulté pratique que rencontre la banque pour contrôler et superviser un nombre assez élevé de projets financés selon le mode participatif. Par exemple dans le cadre du contrat *Moudaraba* l'agent (client entrepreneur) peut être amené à augmenter les charges au-delà du niveau nécessaire permettant la maximisation du profit du moment qu'il aura à partager les profits ou les pertes avec la banque. En cas de perte, c'est la banque qui supportera la totalité des coûts ce qui peut donner lieu à un problème d'agence. Pour le client entrepreneur, le financement participatif sous la forme *Moudaraba* est moins risqué que le financement bancaire classique (emprunt bancaire) qui nécessite, en cas de perte le remboursement des montants fixes. Du fait que la majorité des banques islamiques opèrent dans un système bancaire et financier conventionnel et sous l'effet de la concurrence, les problèmes d'agences peuvent mener à la concentration des mauvais risques du côté des banques islamiques. Pour éviter de telles situations, les banques islamiques sont invitées à effectuer des évaluations rigoureuses et supplémentaires nécessitant un volume d'information assez élevé ce qui induit forcément l'engagement des coûts d'intermédiations plus élevés que ceux des banques conventionnelles et ayant pour sources les coûts de contrôle. Ainsi, la viabilité et la profitabilité de chaque projet doivent être évaluées séparément avant même la négociation du taux de partage des profits ou des pertes.

1) *Sélection adverse*

Dans le cas où l'information est cachée, le type ou la caractéristique de l'entrepreneur n'est pas parfaitement identifiable par le créancier, à savoir la banque islamique, alors cette dernière doit mettre en place des techniques de prévention contre les effets néfastes de la sélection adverse. En effet la banque islamique (le principal) peut offrir des contrats qui séparent les différentes sortes d'entrepreneurs (agents). L'intention est de former un menu de contrats différents, où chacun des entrepreneurs (agents) choisira volontairement le contrat qui lui convient et désigné par la banque islamique. Ainsi, et selon le contrat choisi, la banque islamique (le principal) sera capable de cerner les caractéristiques de l'agent. En procédant ainsi la banque islamique a mis en place un modèle appelé de discrimination (*screening*).

Les banques islamiques disposent de la variable taux de partage des profits ou des pertes pour distinguer les bons (faible risque) des mauvais (risque élevé) investisseurs. Ainsi la banque peut offrir aux investisseurs ayant un faible risque et de bons revenus un ratio de partage élevé.

2) *Hasard moral*

Dans le cadre où l'action est cachée, la banque islamique cherche à minimiser les conséquences de l'aléa moral. En effet la banque islamique (le principal)

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conçoit des contrats qui incitent l'entrepreneur (agent) à offrir un niveau d'effort optimal et effectuer des actes plus avantageux vis à vis de lui. L'existence de problèmes de hasard moral dans les modes de financement participatifs est l'un des facteurs les plus importants entravant la popularité de ces modes. En effet, le problème de hasard moral caractérise deux situations, d'une part si deux agents s'accordent sur un contrat mais que l'un d'entre eux entreprend ensuite une action qui n'est pas observée par l'autre agent, nous avons affaire à un problème de hasard moral action cachée. Dans ce cas, un agent peut profiter de sa situation pour mener des actions qui augmentent son bien être au détriment du bien être de l'autre. D'autre part, si deux agents s'accordent sur un contrat mais que, par la suite, il se produit un état de la nature observé par l'un des agents mais pas par l'autre, c'est le problème de hasard moral avec connaissance cachée. L'agent peut en effet ne pas révéler la véritable réalisation de l'état de la nature et tirer profit de la situation au dépend de l'autre. Donc le comportement et l'attitude de l'emprunteur après l'entrée en vigueur du contrat peuvent totalement déséquilibrer les termes du dit contrat, on est en présence du risque moral. Comment la banque islamique doit procéder afin de réduire voir même éliminer les conséquences négatives issues des problèmes informationnels?

Le contrat *Moudaraba* attire un grand nombre d'entrepreneurs avec des richesses limitées vu la non exigence de garanties. Plusieurs projets présentant des rentabilités faibles et des risques élevés seront proposés à la banque islamique. Supposons qu'un entrepreneur dispose de deux projets ayant le même niveau de rentabilité attendue mais avec des degrés de risque différents.

Le projet "A" a un degré de risque acceptable alors que le projet "B" tout en ayant le même taux de rentabilité futur se caractérise par un degré de risque plus élevé. Il n'est pas évident pour la banque islamique de caractériser avec précision les deux propositions "A" et "B" en terme de couple rentabilité risque. Dans un système bancaire dual où cohabitent les banques islamiques et les banques conventionnelles, l'entrepreneur[23] choisira de financier le projet "A" par un contrat de dette auprès d'une banque conventionnelle et réalise ainsi une part de gain élevée. Alors que pour le projet "B" il préférera le financier auprès d'une banque islamique via un contrat de *Moudaraba* pour que, en cas de faillite la banque islamique supporte les pertes. Par conséquent, la non exigence des garanties dans le cadre de financement par *Moudaraba* favorise la concentration des entrepreneurs à risque élevé. Dans ce contexte à quel mécanisme la banque islamique aura recours pour surmonter le problème de sélection adverse ? Autrement dit, comment la banque islamique arrive à discriminer entre les projets à risque élevé et les projets à faible risque ?

En absence de garantie la banque islamique peut procéder au rationnement de l'offre des fonds[24] pour résoudre le problème de sélection adverse.

Dans le processus de rationnement, la banque islamique doit employer une variété de technique de discrimination (screening) afin d'identifier les crédibilités et les expériences des entrepreneurs. La première étape entreprise par la banque islamique et qui vise la réduction des problèmes de sélection adverse consiste à sélectionner les entrepreneurs en les classifiant en deux catégories :

- Ceux qui ont déjà eu des relations et des expériences réussites avec les banques.
- Et les nouveaux.

En comparant les deux groupes, le premier peut être considéré comme étant le moins risqué vu que les informations concernant leurs habilités, leurs crédibilités et leurs réputations peuvent être obtenues à un niveau de coûts acceptable à partir de leurs historiques.

Le financement des projets proposés par les nouveaux entrepreneurs peut alimenter les problèmes de sélection adverses du moment que les informations qui les concernent sont rares et non disponibles ou plus coûteux.

Ayant déjà distingué les entrepreneurs expérimentés de ceux qui ne le sont pas et ayant estimé leurs crédibilités, la banque islamique donnera la priorité aux projets selon leurs niveaux de rentabilité attendue et leurs degrés de risques. Afin de se protéger contre les entrepreneurs malhonnêtes, la banque islamique procède à la surestimation du degré du risque associé à chaque projet de financement et comme compensation de cela, elle choisira les projets avec les taux de rentabilité les plus élevés. Toutefois, le taux de rentabilité élevé recherché par la banque islamique signifie que les projets ayant des taux de rentabilité futurs relativement faibles associés à des faibles degrés de risque seront jugés comme non profitables et par conséquent ne seront pas retenus par la banque islamique. Chaque fois que la banque accepte un projet à des taux de rentabilité élevés un autre projet risqué sera attiré et sera éliminé un projet à moindre risque. Afin de minimiser la possibilité de s'engager dans le financement des projets à risque élevé et pour parvenir

[23] Entrepreneur rationnel qui n'est pas véhiculé uniquement par des motifs religieux ou éthique ; ses critères de choix sont purement économiques.

[24] Par analogie au concept de rationnement des crédits. Stiglitz, J. et A. Weiss [1981]: Credit Rationing in Markets with Imperfect Information American Economic Review 71, 393-410. Jaffee, D. and T. Russell (1976), 'Imperfect Information and Credit Rationing'. Quarterly Journal of Economics, vol.90

à la réduction des coûts d'information associés à l'identification des caractéristiques de chaque projet, la banque va accorder en premier lieu les financements aux projets qui sont similaires à ceux déjà financés et réussis. Dans ce sens le champ d'intervention de la banque islamique sera limité et elle se trouvera concentré sur un secteur d'activité unique. Par conséquent la banque ne parvient pas nécessairement à l'optimum de l'allocation des fonds et n'arrive pas à promouvoir les nouveaux entrepreneurs et risque de se priver d'opportunités de gains. Même si la banque islamique parvient à identifier le couple rentabilité risque des projets qu'elle souhaite financier, la nature participatif du contrat *Moudaraba* peut donner naissance a des problèmes de hasard moral tel que les problèmes incitatifs d'effort (niveau d'effort à fournir) et les problèmes d'agence.

IV. Conclusion

Une des caractéristiques de base qui distingue les banques islamiques des banques conventionnelles est que le rapport contractuel des banques islamiques avec les détenteurs de comptes d'investissement ne stipule aucun revenu prédéterminé sur le montant initial du financement de l'investissement. Dans ce rapport contractuel le capital initial n'est pas garanti mais un pourcentage des bénéfices qui se réaliseront sur l'investissement de ces fonds est fixé ex-ante. L'intermédiation financière islamique s'efforce de remplacer l'intérêt par d'autres modes et instruments aussi bien pour mobiliser les épargnes que pour les allouer à des emplois productifs. Les banques islamiques appréhendent donc la finance d'un point de vue fortement éthique. Leurs dirigeants doivent faire preuve d'un comportement honnête, sincère, et respectant les préceptes de la religion. Le fait que la loi islamique interdise de verser ou de toucher les intérêts n'implique pas qu'elle défavorise et ignore la réalisation des gains ou encourage le retour à une économie fondée uniquement sur les espèces ou le troc. Elles incitent toutes les parties à partager le risque et le bénéfice ou à la limite la perte éventuelle inhérente à l'investissement.

Nous pouvons comparer les déposants des banques islamiques à des investisseurs ou actionnaires, qui reçoivent des dividendes quand la banque fait un bénéfice ou perdent une partie de leurs économies quand elle subit une perte. Le principe consiste à lier le rendement du contrat islamique à la productivité et à la qualité du projet, pour assurer une répartition plus équitable de la richesse. Comme le principe du rejet du prêt à intérêt est une caractéristique fondamentale du système bancaire islamique, il a fallu donc développer de nouveaux instruments de crédit permettant aux banques islamique de remplir convenablement leur rôle d'intermédiaire tout en respectant les prescriptions islamiques. En tant que mécanisme d'allocation de ressources, le taux d'intérêt qui est prohibé, a été remplacé par le taux de rendement sur des activités réelles. A cet effet, un ensemble de techniques et d'instruments, basés sur le partage des risques et des profits a été développé dans le cadre de ce système. Dans le cadre de ce travail nous avons analysés essentiellement les contrats de financement participatifs à savoir la moudaraba et la moucharaka. Dans un contexte concurrentiel, la banque islamique fixe les niveaux des taux de partage des profits ou des pertes des contrats de financement moudaraba de façon à être compétitive et gagne au moins ce que gagne une banque conventionnelle. La banque islamique procède à une étude rigoureuse du projet à financier et proposé par l'entrepreneur puisqu'il est dans l'intérêt de ce dernier de favoriser les anticipations les plus optimistes même en sachant que le profit qu'il réalisera sera inférieur au niveau déclaré à la banque islamique lors de la demande de financement.

Notre analyse du mode de financement par moucharaka dégressive, le niveau du profit généré par le projet d'investissement conditionne la contribution de l'entrepreneur dans le capital. Ce qui l'incite à augmenter son niveau d'effort et par conséquent son niveau de productivité et de profit afin de disposer de la totalité du capital dans le cadre du contrat de financement participatif dégressif et qui se présente comme un moyen incitatif afin de résoudre les problèmes d'agence rencontré lors des contrats participatifs moucharaka en impliquant l'entrepreneur dans le projet via les part de capital.

L'emploi des techniques de financement basé sur le partage des profits ou des pertes du coté de l'actif ou du coté du passif a des implications importantes se rattachant à la stabilité et la gestion de la banque islamique. La réaction des clients déposants face à des faibles rémunérations de leurs dépôts ou le cas échéant la dégradation du principal de leurs dépôts, peut aller jusqu'à un retrait massifs des fonds cela agit comme un outil disciplinaire qui punit les inefficiences d'une telle ou telle banque islamique Par ailleurs, en théorie, les contrats participatifs du type moucharaka permettent de réduire les coûts d'agence pour l'investisseur final en favorisant le mécanisme de contrôle interne du fait que le revenu de l'entrepreneur dépend directement du rendement de son projet d'investissement, ce qui l'incite à fournir un effort élevé et gérer au mieux les fonds qui lui sont confiés. Ainsi dans le cadre des contrats participatifs, l'accent est mis non pas uniquement sur la solvabilité globale de l'emprunteur mais également sur le potentiel économique (la rentabilité) du projet d'investissement à financier. Sur le plan pratique, un constat peut être souligné concernant l'emploi des contrats Moudaraba et Moucharaka, la plus part des banques islamiques utilisent le contrat Moudaraba pour rémunérer les déposants c'est-à-dire dans le sens clients déposant-banque islamique. Tandis qu'elles favorisent l'emploi du contrat mouchrakah pour financier les clients entrepreneurs dans le sens banque islamique- client entrepreneur.

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Fundamental Causes Of Financial And Economic Crisis And Its Overcoming

By Vladimír Vrecion
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Abstract - The article deals with the fundamental methodological and theoretical ideas of market economy. The logical core of the market economy (ME) and its functioning is briefly described. From these logical bases of ME basic principles of its right functioning are deduced And from there is deduced how the contemporary practice of ME and market society disturbs, subverts these principles. The consequence of such disturbing of the logical core of the ME could be its partial and even total collapse. The current financial and economical crisis is a warning example. It is necessary to implement and to restore in practice fundamental principles of market economy in order to resort present crisis and to avoid future great - even fatal risks. And this will be mainly the role of states and international institutions.

Keywords : free market, financial crisis, economical crisis, methodological analysis, free exchange, information, symmetry, risk, overcoming of crisis, long range forecast

GJMBR-B Classification : FOR Code: 140202, 150202, 140210, 140212 JEL Code: F36, F53, O24, P45, H87

FUNDAMENTAL CAUSES OF FINANCIAL AND ECONOMIC CRISIS AND ITS OVERCOMING

Strictly as per the compliance and regulations of:

Fundamental Causes Of Financial And Economic Crisis And Its Overcoming

The Logical Core Of Market Economy:

How We Subvert It

Vladimír Vrecion

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I. Summary

The mechanism of market economy (ME) is very simple and it could be effective. It represents its advantage and potential benefit. It is built on a few simple, logically necessary, unavoidable relations. But the contemporary practice subverted the principles of its functioning.

The basic building block, the essential relation of ME is free exchange instantiated in the relation of purchase and sale. If the exchange is really free, it takes place only if it is advantageous for both sides of exchange. Only such exchange acts as the right self-regulator and the moving force for desirable development of economy. Thus it affects by a balanced objectification of profile of the needs of the buyers motivates and profiles a desirable structure and capacities of economy. To guarantee this free exchange, so essential for ME, after bourgeois revolutions some prerequisite social (political, civic, state and legal) mechanisms were given rise to.

Because of the violation of free exchange, of its dynamic balance, indispensable information completeness and symmetry, the very basics of ME are being distorted, its principles are being subverted. The distortion of the free later must end by its distortion in a great extend or even exchange directly deforms self-regulative functioning of ME (i.e. "Invisible hands" can´t work)) what sooner or by the collapse of the whole ME and capitalist society. The serious symptom is contemporary crisis (but also - such symptoms for the future probably more serious mostly ecological crises are e.g. the traffic collapses in cities).

The contemporary practice of ME and civic and political society esp. lack of proper, truth information and different kinds of pressures on the parties of the exchange constrains, distorts or destroys the free character of exchange. There are both objective and subjective contributing factors:

- Distorting are disinformation about money in exchange and non - transparent financial practices (mortgages, loans) on the side of sellers that mainly have caused contemporary global financial and economical crisis
- The growing technological complexity and sophistication of products and their use in society tends to require better and broader knowledge and education of buyers and we see a growth of discrepancy between general education, culture and required technical and/or scientific knowledge of the buyers. This objective but for the ME negative trend is deliberately used, abused and amplified by biased advertising, medial and political manipulation. The objectivity of decision-making, esp. on the side of the buyers, is subverted by disturbing and limiting their objective perception of the object of exchange, the all of its relevant qualities, incl. consequences of its long-term (worrying example is cosmetics etc) and mass use (motorism, tourism etc).

It can causes even substantially worse economic crisis in future (after 15-20 years).

The main goal of the article is to show on solid methodological and theoretical base how esp. information asymmetry and deceiving in the relation of purchase and sale destroy ultimate bases of ME It is main reason of contemporary crisis and crises in future Restoration and abidance of this symmetry and honesty is fundamental presumption for overcoming of present crisis and for restoration of stability of world economy. It could be done by means of the states and (objective

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and honest) international bodies that must be properly organized.

For a deeper scientific insight into the ME and its fundamental problems a deeper methodological approach is needed. It is also fully valid for the economy that there's nothing more practical than a good theory. And the good theory can not be created without a good methodology.

II. To the Methodology of Economy

One of the most general methodological ideas of science is, that the all in this universe is built on principles of logical simplicity, logical unavoidability and elegance - beauty, and the all relatively stable parts of reality are built on relations of polarity and symmetry.. These ideas could substantially contribute at the analysis of logical core of market economy (ME.) and its functioning.

The ME is methodologically suitable subject for such methodological approach because its mechanism clearly shows signs of logical simplicity, logical unavoidability and elegance. But in this article we'll be looking at the postulates of polarity and symmetry in ME only.

We label this general methodological approach as a general theoretical - logical method (GTLM). Its use in research of the ME means, that if we try to find the logical core of ME, which would eventually imply general laws of ME, we have to find and analyze at first the simplest and the oldest social relation, which came into being as historically first in the phenomenon (called now) ME. The "Big Bang" for the ME was the appearing of a general equivalent = money, which enabled the first social relation to come into being – the relation of purchase and sale, in the other words, relation of exchange of money for goods (products, services).

The relation of purchase and sale represents the microstructure of ME. It is the primal building block of ME. This can also be seen as an instance of the before mentioned general principle of simplicity. It is not by chance that similar general theoretical and logical procedure (GTLM), was at least implicitly used by the great economists, who have elaborated sufficiently complete, logical and practically useful theories of ME (Smith, A., Friedman, [1], [2], [3] and some others).

From the very beginning of the ME the structure of the relation of purchase and sale has been the same. This relation shows general features characteristic for any (relatively) stable material, energetic, dynamic structures. Among these features they are especially the features of polarity and symmetry. The polarity and symmetry are necessary requirements for creating of any, even relative, dynamic stability of a phenomenon. In our case the relation of exchange requires this polarity and symmetry not only for the own existence but also for creating of relative, dynamic stability of the whole ME which is built on this primary relation.

III. The Logical Core of The Market Economy

The relation of purchase and sale (its basic, most widespread form – type I, see further) is built on the relations of polarity and symmetry, in other words the polar symmetry between the buyer and the seller. (which is in principle the same as the polarity of particles in the microstructure of matter). The buyers and sellers are "attracted" by interest in a product (its purchase /sale/) and at the same time "repelled" by the opposite interest in the price of the product. These forces = interests, polar and in principle symmetrical, create this relation. Intensity of these counteracting interests is being balanced and stabilized during the deal of free exchange. A particular balance of interests is created by negotiating the exchange (esp. price) of the product, i.e. negotiating a particular symmetry of exchange.

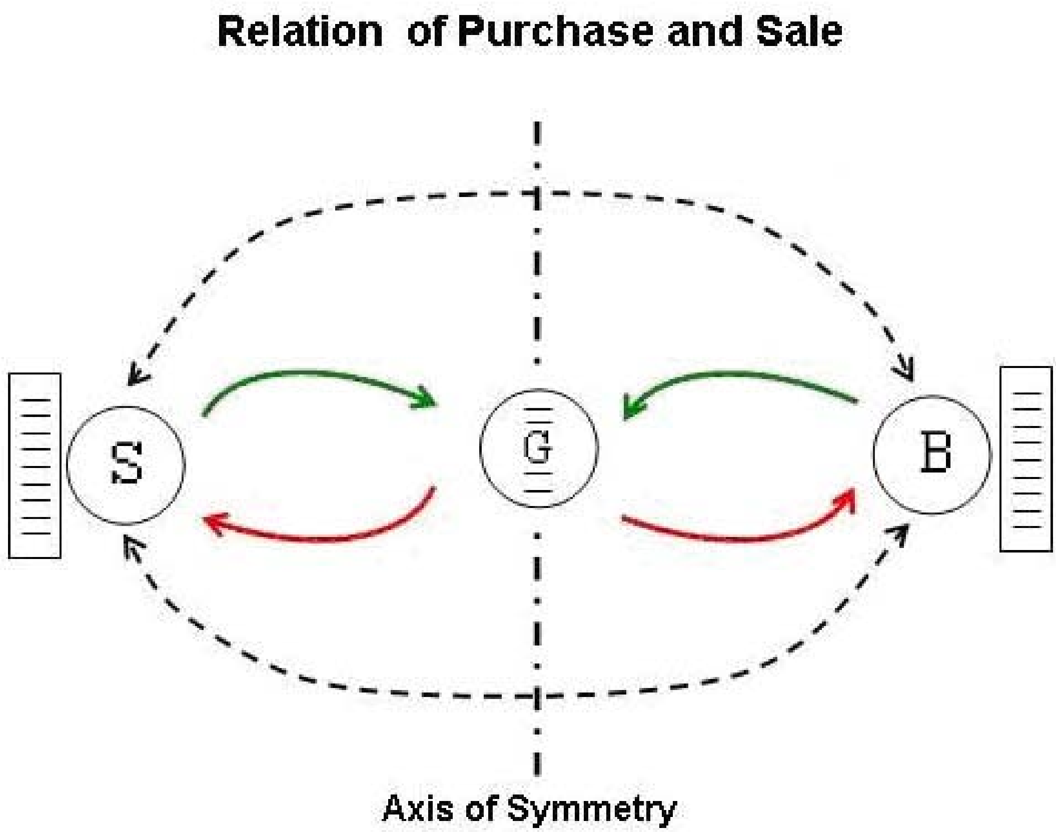
In the macroeconomic scope, numerous buyer-seller relations of a special kind of product are stabilized in an abstract dynamic equilibrium – in a certain tolerance of general price. We say, that the value law enables us to state an average (probabilistic) price of product from a number of relations of the free exchange relations of a given ME in a given time.

The law of value is an abstraction – it is an attribute of generally valid methodological principles, that we can see in it elements valid in the physical principles of quantum indeterminacy and locality (deeply analyzed in both theoretical physics and mathematics – but methodologically applicable also in theory of ME). It means, that even in ME there are phenomena (commodities, customers, parties of exchange etc) quantified and we = observers can these quantity perceive only with some probability and we don't always have to consider the ME of the whole state or world but only adequate local surroundings of a particular exchange. We can consider that as the "principles of the indeterminacy and locality in economy ".

The polarity and symmetry of individual relations of purchase and sale are also the necessary prerequisites of necessary stability of ME segments and the whole ME in their aggregation. This stability is of course relative to the place of exchange, product development and it changes dynamically in time.

The methodological criterion (applicable also in economy), whether we have grasped the real core of a phenomenon is that we can speak about it in a simple and clear manner. Undue complexity and of course obscurity is always a sign, that we have some factual or logical lack of knowledge about the phenomenon (or that we lie). Let's add that a well grasped phenomena can be visualized and this visualization (usually in some level of simplification) drawn.

Thus, the primal and simplest relation in ME is a relation between two subjects: the seller (S) and the buyer (B) , their structured values, interests, features etc. are depicted by the structured oblongs. The subject of exchange will be marked as (G) =goods, its various properties are marked by a structured circle around G.



Pict. 1

This relation is created on a polar symmetry (the perpendicular line in G marks its axis) which is the condition for its existence, balance and stability. Polar symmetry means, that there is a stable counteraction of at least two forces of two entities (e.g.: gravity. ↔ centrifugal force).

The relation between S and B is polar, S and B are two entities between them counteract some partial attracting and repulsing relations – forces.

B is attracted to S by his interest in goods, which will satisfy his needs, S is attracted to B by his interest to gain the general equivalent – money – in exchange for his goods, to satisfy his other needs. Both parties are thus "attracted" due to their needs, due to complementarity of needs. This "attraction" is marked green.

At the same time S and B are being "repelled" from each other by their opposing interest in price of the goods: S is interested in maximization of price and B in its minimization – this relation is marked red. The both of these counteracting interests are of course relative, influencing by state of the market, psychological and other factors.

These elements create polarity of relation and this relation must be in principle symmetrical esp. in the aspect of forces (attractive and repulsive) to create needed stability. During asymmetrical compensation of needs and interests (e.g. because of pressure, which deforms these attractive and repulsive forces from the outside), such exchanges either don't take place at all or necessarily are disbanded soon.

Initiated by axiology the needs and interests of the seller (S) and the purchaser (P) (whose structure are marked by structured rectangles at S and P), their relation of exchange is accomplished by physical “intermediators”, i.e. by language or other communication means (being marked by the outer bows) and space transfer of goods towards P and of money towards S.

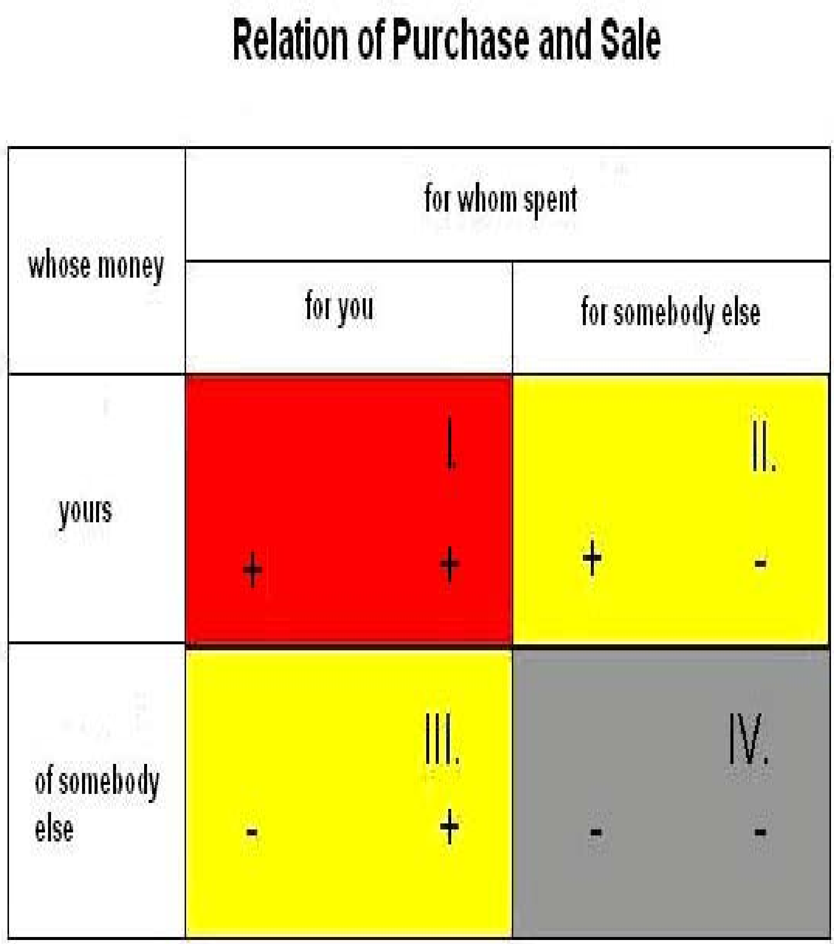
The exchange is implemented when the relations between S and P are balanced (by the mentioned “forces” - even only in subjective appraisal of S and P). The exchange is reached and the relation ceases to exist (the legal implications of the accomplished exchange we left aside here).

The exchange is fulfilled in the point of balanced interests and influences of S and P. The balance is a result of a fundamental symmetry in the construction of the examined relation of purchase and sale.

In the market economy the relations of exchange concerning concrete types of commodities (money is also a commodity) represent a mass phenomena and by continual averaging out (even by a subjective estimations) the law of value and price movement function.

The elementary primary relation of ME – the relation of purchase and sale – can be further analyzed in many regards.

Since Chammurapi´s times we recognize 4 kinds of the purchase-sale and/or money spending relations. They differ one from another according to whose money is spent and for whom:



Pict. 2

In order to evaluate these particular kinds of purchase and sale, first of all we have to define the criterion of evaluation according to which they act positively or negatively regarding ME development. As for ME this criterion can be probably best defined by our demand: to have economy that creates maximum of needs that are subsequently satisfied by it as much as possible. Thus, when evaluating, we consider how much a particular kind of relation (or any economical element) contributes to such demanded economy.

Evaluating by mentioned criterion, the most effective of these relations is relation I (that is why marked in red). If I buy something for myself paying with my own money, I perform the utmost effort for as low expenses as possible (marked by +) to acquire an optimal (maximal) utility value (marked by +, too). Then by + we mark rational, effective acting and by – we do the opposite in accordance with the criterion described above. So, in relation I, my attempt is to minimize expenses and maximize acquired utility value. The functioning and self-regulation of free market economics is based on this relation.

Although ME theory does not actually work with the general concept of "utility value" it becomes necessary even for ME itself that the purchaser is equipped with as much knowledge as possible about the selling goods not only from the point of view of his individualized utility values but also the general utility values of such goods. It becomes increasingly important to know how the bought goods influence life not only of buyer but of the whole society and in addition in a long-term horizon (e.g. cosmetics etc) and at mass use (e.g. cars etc). (According to author's experience, e.g. the ex post discovered individualized and also general utility value of his bought car in Tokyo was zero if not even negative – and it could be only worse in future. And it is not by chance that automobile industry was strongly hit by contemporary crisis) This is supported by many reasons and it could be here generalized and abbreviated by formula “to keep sustainable economical growth”.

The information symmetry between S and P is the prerequisite of a correct running of relation I. S must be objectively informed about the quantity and the quality of the money received and P must be objectively informed about the quantity and the quality of the goods received. The symmetry (and actually the existence) of relation I demands that the truth about commodities exchanged be an economical imperative. The truth about commodities exchanged, thus, is not only an ethical demand but also the immanent economical category - imperative in ME.

At the same time, the logic (and namely the mutual polarity) of relation I implies that the selfiinterest of S and P is the foundation stone of ME. S and P must try to get the maximum from the other side of the exchange for the minimum of their own assets if they want sufficiently exist in the environment of ME. All the moralistic theses about great altruism are, thus, in contradiction to the “iron logic” of the ME.

The relation II. is worse from the point of view of mentioned criterion of ME. It can be demonstrated for example by buying your work colleagues birthday presents. You try to minimize the expenses (+) but you do not care so much about the utility values, design etc the given things (-). That is why the birthday present you have got have seldom some utility value for you and you mostly do not know what with them .

According to the relation III, when somebody invites you for a dinner you do not try to minimize the expenses (-) but you choose your dish carefully (+).

The relation IV is effective least. Somebody who spends somebody else's money for somebody else is not (vitally, deeply because it is not his money) interested in minimizing the expenses (that is why marked by -). At the same time he is not interested (vitally, deeply and in addition he normally can not know well the needs of somebody else) in maximizing the utility value that is bought (again -). And yet more, there is an opportunity for various kinds of deception, corruption in both directions (towards the source of money as well to the recipient of the value). And exactly this is the relation that represents the basis of state economics, state funds spending.

The state, in fact represented by a group of bureaucrats, obtains money from taxpayers-citizens,enterprises and it spend it for other citizens, institutions, companies etc. The most of the bureaucrats can't be personally vitally interested in the maximal purposeful money spending. In addition the feasibility of various kinds of manipulations and corruption is an inseparable part of relation IV logic. Many politicians and bureaucrats are magnetically attracted by this possibility (so to say the opportunity makes the thief). Therefore the corruption, thefts are integrally incorporated into “iron logic” of the relation IV i.e. also into the state money spending. The responsible state (and also big companies) must therefore permanently and carefully organize anticorruption activities.

In addition the state is basically an anonymous subject and as the owner and supporter of institutions, as a services provider, as property keeper and investor has necessarily lower work efficiency in comparison with an individual private keeper, entrepreneur.

The mentioned rules valid for individual (buyer, seller) are also valid mutatis mutandis for private enterprise. The more is applied the relation I into the all its activities, the more efficient the enterprise is. The employees of a small company are able nearly to identify themselves with company and act there according to the relation I. (The number of employees of such “beautiful firm” is maximally 100, also psychologically we can have maximally this number of closer acquaintances.) That is why “the small is beautiful” in ME. Therefore the bigger companies is better to divide into smaller units, each of them to be managed financially separately.

Yet others principal truths, laws, can be deduced from the analysis of this basic “foundation” relation of the ME. A society, an economics that function maximally on the implementation of the relation I, i.e. Leistungsgeselschaft, with the really free and fair market are naturally wanted by the strong, i.e. able, health,, young, hardworking etc. individuals. On the contrary the old, sick, or somehow disabled people tend to a socialized, redistribution-oriented society i.e. to the society based on relation IV.

With that in mind, it is then quite natural and not unethical if you change your politically-economical opinions and convictions even radically, from the right (relation I) to the left (IV) and vice versa according to your individual circumstances and abilities throughout your life. The similar pendulum behavior can be said about the collective subjects, nations and states. If the subjective and objective conditions are favorable, they tend to the relation I., if not, then to the relation IV. These pendulum changes could have deep and long-term influences in a nation's or state's life and can be clearly observed in history.

Let us now look at the types of purchase and sale (I – IV) also as far as polarity and symmetry are concerned.

The relation I is polar and symmetrical and that is the main reason why it legitimately represents the building relation of ME.

The relation II is non-polar and asymmetrical. S is interested in minimization of price of the "given" product and P (actually the one who gets) is interested in maximization of value of the given product G but this as well as the price can not be normally influenced by his will.

The relation III is the inversed relation of relation II and therefore it is valid vice versa the same as above.

The relations II and III then can not be the "building" relations, core stones of any economy. Being asymmetrical, they can never become holders of any long-term balance, stability or even self-regulation by their own. In ME they act only marginally, being additional and "derived" from the dominant relation I. Moreover, these relations must be regulated, checked, though only afterwards and externally by participants of relation I. (A company checks its salesman's expenses, a father checks his children's pocket money spending etc.)

The relation IV is symmetrical but non-polar (or possibly very little polar). It represents the relation in which the attractive force (towards the goods for somebody else) and also the centrifugal force (towards the price – it is paid by somebody else's money) are very weak. This relation of symmetry is in fact the symmetry of "unconcern" towards the goods and the price.

Should this relation has a polarity and a symmetry "strong enough" to be the stable and balanced relation of a stable economy and society (and thus become similar to relation I), its polarity and polar symmetry must to be brought to economy "from outside "by non-economy forces: by moral-political means, by power forces. The relation IV alone can´t function well as a self-regulator of economy.

As for the relation I representing the building relation of ME it is crucial to monitor and protect its polarity and its versatile symmetry, which is important role of civic society and the state.

The above said implies that ME is prone to various threats. The constant threat of ME is an excessive usage of relation IV in economy. The much worse threat is that the symmetry and the polarity of relation I, both of them representing the prerequisites of a dynamic stability of ME, are being more and more disrupted.

Nowadays, this basic relation is being disrupted namely by information asymmetry, above all by the lack of truth information about money and in future about the selling goods on the side of the buyers connected with bias adverting and yet by subsidy, dumping etc.

The symmetry (in terms of mathematical theory of groups) means that if changing the relations in a phenomenon, there are some relations that can not be changed - which unfortunately is actually happening in ME.

Moreover, the disruption of polarity and symmetry in the basic ME relation implies that ME function without sufficient self-regulation. Then it is necessary for the states and international bodies to take corrective (now unfortunately sometime unsystematic) measures concerning ME.

The role of civic society as well as of the states is to assure really free character of exchange i.e. that the purchase-sale relations will be really free, fair, independent, polar and symmetrical.

Otherwise the market economy would be doomed to end up in various "traps", where it would be confronted in longer run namely with the ecological limits.

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Value Creation By M&A Transactions In The European Insurance Market

By Andreas A. Schertzinger,Dirk Schiereck
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Abstract - The European insurance sector went through a radical transformation in the 1990s. Harmonization of EU regulation lead to a strong increase in M&A, and several factors indicate a new wave of transactions. We analyze the influence of transaction timing, geographical and industry strategy, and experience on short- and long-term value creation by M&A of European insurers. Transactions in the bottom of the M&A cycle, fully focusing or diversifying transactions, and transactions by inexperienced and most experienced acquirers created more long-term value. These findings are mostly contrary to short-term capital market reactions and results of previous research on the U.S. market.

Keywords : acquisitions, capital market integration, corporate control, cross-border acquisitions, mergers, insurance, investment banks, Europe

JEL Classification : F 36, G 22, G 34

VALUE CREATION BY MA TRANSACTIONS IN THE EUROPEAN INSURANCE MARKET

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Abstract - The European insurance sector went through a radical transformation in the 1990s. Harmonization of EU regulation lead to a strong increase in M&A, and several factors indicate a new wave of transactions. We analyze the influence of transaction timing, geographical and industry strategy, and experience on short- and long-term value creation by M&A of European insurers. Transactions in the bottom of the M&A cycle, fully focusing or diversifying transactions, and transactions by inexperienced and most experienced acquirers created more long-term value. These findings are mostly contrary to short-term capital market reactions and results of previous research on the U.S. market.

Keywords : acquisitions, capital market integration, corporate control, cross-border acquisitions, mergers, insurance, investment banks, Europe

I. Introduction

The European insurance sector went through a radical transformation, which began in the 1990s and is still continuing. Deregulation, implementation of the EMU, progress in information and communication technology, and economic forces such as favorable financial markets, highlighted solvency concerns and soft insurance markets drove the transformation process (Swiss Re, 1999 and 2000, and OECD, 2000a). Regulatory harmonization took a quantum leap with the introduction of the Third Generation Insurance Directives for life and non-life insurance in 1992, which for example eliminated price and product regulations, ensured cross-recognition of licenses and restricted host country control to solvency requirements (OECD, 2000b). Later directives brought European operating environment further into line, e.g. the Insurance Group Directive in 1998 (OECD, 1998), and the Reinsurance Directive in 2005 (European Commission, 2005).

European insurers reacted promptly. Dealogic reports 1,225 completed M&A transactions between European insurers in the years 1995 to 2005. While the number of insurance companies operating in the EU-25 decreased only slightly from 5,083 in 1993 to 4.933 in 2004, the market share of the 10 largest life and non-life insurers increased remarkably from 49.5% to 75.1%, and 59.0% to 80.6% respectively (CEA, 2006).

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Insurers were far more enthusiastic about seizing opportunities and withstanding competition from a single market for financial institutions than banks: Cross-border transactions clearly dominated insurance M&A activities between 1990 and 2005 with 63% of the total transaction volume. Nonetheless, insurers were reluctant to diversify their activities across sub-industries: Only 70% of insurance transactions were focused on expanding current business, an atypically small proportion compared to other industries (Focarelli and Pozzolo, 2000).

Today, there are indications for a new wave of transactions. Extending outreach of the EU and the EMU are only two of many factors indicating a pickup in M&A activity. Other major signals include further simplification of jurisdictions (e.g., European Societas and IFRS), persisting cost-efficiency gaps, aspiration for fast growth in the CEE and Asia, and an expected softening of non-life and reinsurance prices. The trend is further underlined by insurers' excess capital awaiting profitable investment, and revived interest of private equity investors with almost quadrupled transaction volumes from 2005 to 2006.

Despite the fundamental market transformation and current relevancy for the European insurance industry, there has been little empirical research in this field so far. Cummins and Weiss (2004) obtain an acquirer CAR of -0.61% and a target CAR of 7.50% for European insurance M&A, whereas all other studies with a focus on the U.S. market report significantly positive acquirer CARs and notably higher for targets. Findings of studies on value creation by M&A in the U.S. insurance industry may thus not apply for the European insurance sector.

However, only Cummins and Weiss (2004) focus their analyses on the European market, but they do not study combined entity returns (CERs) short-term around announcement of transactions, omit a multivariate analysis on drivers of value creation, and do not examine long-term value creation after the announcement at all. Floreani and Rigamonti (2001) cover Europe as one of many regions with only 16 observations. Long-term value creation for European insurers has not been investigated so far. Only Boubakri et al. (2006) analyze long-term abnormal returns, but restrict their analyses to the U.S. insurance market and P&C acquirers. The purpose of this study is to extend the empirical evidence by analyzing short- and long-term value creation and its determinants for European insurance M&A.

The paper is structured as follows. In section 2, we derive hypotheses on value creation and its determinants. In section 3, we present descriptive statistics on our data sample. In section 4, we briefly review the applied event study methodology. In section 5, we present results on the short- and long-term horizon. Finally, we discuss the results and derive conclusions in section 6.

II. Research Agenda

Although concentration especially in the European primary insurance sector increased notably between 1993 and 2004, a new wave of M&A is likely to catalyze investors' pressure on management to create value again. This finding confronts with a paradox: Empirical studies of M&A in the financial services industry frequently doubt value creation, in particular in the U.S. and the European banking industry (Beitel et al. 2004; Pilloff and Santomero 1998). In contrast, evidence for the insurance industry is more promising. Insurance M&A transactions in the U.S. and world market created value (Akhigbe and Madura 2001; Floreani and Rigamonti 2001; Cummins and Weiss 2004; Cummins and Xie 2005; Boubakri et al. 2006). To understand whether M&A value creation in the European market, we examine whether M&A transactions in the European insurance industry also yield positive abnormal returns.

Three non shareholder-value focused motives are more likely to prevail during years of high M&A activity. According to the *free cash flow hypothesis*, managers with high free cash flow at their discretion are more likely to carry out M&A transactions than returning capital to shareholders (Jensen 1986). The *bandwagon hypothesis* suggests that management is more inclined to carry out transactions in M&A peak times, even in case of doubtful rationale, seeking to maintain its relative market power. The *empire building hypothesis* argues that management may use M&A as a defensive strategy against hostile takeovers of the own company, thus securing personal income, power, prestige, and job security. We analyze whether less value is created by transactions during periods of high M&A activity. For the analysis, we introduce an independent variable *TIMING* which categorizes announcement years into the four M&A market phases bottom (1990 - 1995, 2001 - 2005), upswing (1996), peak (1997 - 1999), and downturn (2000).[1]

A crucial decision for management is whether to seek inorganic growth in a related or an unrelated industry or geography. M&A in related industries or geographies may strengthen *market power* or support *economies of scale*, whereas M&A in unrelated industries or geographies may support *economies of scope*. Prior research on M&A in the insurance market obtains mixed results in comparisons of focus and diversification strategies. Generally, focus strategies proved more successful in the U.S. and world market (Floreani and Rigamonti 2001; Cummins and Xie 2005; Boubakri et al. 2006), but geographical diversification within the EU yielded somewhat higher abnormal returns in the European market (Floreani and Rigamonti 2001; Cummins and Weiss 2004).We analyze whether the transaction strategy influences value creation by testing whether diversifying transactions achieve higher abnormal returns than fully focused transactions. We introduce the categorical variable *STRATEGY* as a polytomous dummy variable to distinguish between national/within-industry[2], national/cross-industry, cross-border within EU/within-industry, cross-border within EU/cross-industry, cross-border world/within-industry, cross-border world/cross-industry. If cross-border or cross-industry transactions generate more value than national or within-industry transactions, economies of scope are assumed to dominate market power effects or scale economies.

Pablo et al. (1996) argue that "although better outcomes [of transactions] are associated with choosing a better target, negotiating a better financial deal, or expertly identifying and successfully sharing key strategic complementarities, the degree to which these events are likely to occur depends upon characteristics of the process used to make and implement acquisition decisions". We examine whether the acquirers' transaction experience is as a major determinant for successfully *conducting the transaction process*. The independent variable *EXPERIENCE* categorizes acquirers into insurers with no, few, extensive and most transaction experience based on their transaction history in the previous three years.[3]

In the multivariate analyses, we control for size, region, and industry of the transaction partners. The metric independent variable *LNSIZE* is introduced to control for the acquirers' size, measured by logarithm of its market value at announcement date. The metric independent variable *GROWTH* adjusts for the influence of acquirers' growth on value creation, whereas growth is measured as relative change of market value over the estimation window of the short term analysis. The metric independent variable *LNRELVOLUME* corrects for the influence of the relative transaction volume on abnormal returns, operationalized as the logarithm of the transaction volume divided by acquirer size. The

[1] The chosen classification into four phases based transaction volume relative to peak volume results in a superior regression model fit.

[2] Industries are classified into Life, P&C, Reinsurance, Agents/Brokers, Investment Management and Other.

[3] Due to its superior statistical properties, the four categories are built from quartiles of aggregated 3-year transaction volumes of acquirers, excluding the current transaction.

categorical independent variables *ACQREGION*, *TARREGION*, *ACQINDUSTRY*, and *TARINDUSTRY* control for differences in value creation across regions and industries of acquirers and targets. Regions are categorized in Western European countries (EU-15), Central and Eastern European countries (other EU-25), Switzerland and Norway. Industries are classified into Life, P&C, Reinsurance, Agents/Brokers, Investment Management and Other.

III. Data Sample

We identify European insurance M&A transactions between 1990 and 2005 based on two primary data sources, Thomson Financial SDC Platinum, and Dealogic Merger & Acquisition database. The Dealogic database only covers transactions from 1995 onwards. Both deal lists are integrated, verified and amended through extensive press research. Capital market data and company account data we obtain primarily from Datastream, and complement this data with Bloomberg and annual reports for early transactions.

The following filter criteria are applied to identify relevant M&A transactions.

- The transaction was announced between 1.1.1990 and 31.12.2005.
- The transaction has been closed.
- The transaction volume was equal to or larger than USD 100 mn.[4]
- A change of control occurred through the transaction, i.e. the initial stake of the acquirer in the target before the transaction was smaller than 50%, and the final stake after the transaction is higher than 50%.
- The acquirer was member of EU-25 or Switzerland or Norway. The location of the target country is not restricted.
- The acquirer SIC and the target SIC were 63* (Insurance Carriers). Additionally, targets include SICs 6282 (Investment Advice), 6411 (Insurance Agents, Brokers, and Service), 6719 (Offices of Holding Companies, Not Elsewhere Classified), 6722 (Management Investment Offices, Open-End), and 6726 (Unit Investment Trusts, Face-Amount Certificate Offices, and Closed-End Management Investment Offices).
- The acquirer was a listed company.
- The acquisition object was shares, not only assets or liabilities of a target company.

Table 1 presents an overview of the 176 transactions between 1990 and 2005 that satisfy our general set of criteria.[5] The short-term analysis additionally requires targets to be listed, so that combined entity effects can be computed. The reduced sample contains 54 observations, which is still larger than data sets for combined entities in prior research. Clearly, the implementation of the Third Generation Insurance Directives in 1992 set the starting point for a steadily increasing transaction number and volume, culminating in 1999, when the stock market boomed and the EMU was implemented, with 27 transactions worth USD 51.6 bn. Cummins and Weiss (2004) find the same sample pattern in their data. Between 1990 and 2005, national, cross-border within and outside of Europe transactions accounted each for about a third of the total transaction numbers and volumes. After the implementation of the Third Generation Insurance Directives however, volume share of cross-border transactions within Europe rose from 43% in 1992 to 94% in 1994. The introduction of the Euro produced a similar effect: Volume shares of cross-border transactions rose from 17% in 1999 to 52% in 2000.

[4] Transactions with missing volumes were included or rejected based on the volume obtained through press research; transactions with undisclosed financial terms were excluded.

[5] Following the proposal of Pilloff and Santomero (1998) we have not dropped transactions with multiple bidder activity. We introduced the industry classification "Reinsurance", which is not distinguished by SIC, based on the Top-150 reinsurance provider lists published by S&P in the S&P Global Reinsurance Highlights reports.

Table 1 : Summary overview of identified transactions

Year of announcement	No. of transactions	Average transaction volume in USD mn	National	Cross-border within Europe[a]	Cross-border outside of Europe	Within-industry	Cross-industry
			Geographical focus			**Industry focus**	
1990	6	834	1	2	3	3	3
1991	2	323	1	1	0	1	1
1992	3	313	1	1	1	2	1
1993	4	721	1	2	1	2	2
1994	8	619	1	6	1	6	2
1995	10	534	4	0	6	5	5
1996	16	1,668	9	4	3	8	8
1997	22	2,077	10	7	5	13	9
1998	20	1,295	5	5	10	13	7
1999	27	1,909	9	8	10	13	14
2000	15	2,771	3	6	6	9	6
2001	13	691	2	2	9	7	6
2002	7	882	4	3	0	4	3
2003	11	489	6	3	2	8	3
2004	4	587	0	3	1	2	2
2005	8	2,407	3	2	3	5	3
Total							
absolute	176	1,439	60	55	61	101	75
in percent	100.0%		34.1%	31.3%	34.7%	57.4%	42.6%

[a] Europe is defined as all member states of EU-25, Norway and Switzerland

Sources: Thomson Financial SDC Platinum, Dealogic M&A database, press research

Table 2 : Number of transactions and transaction volume (USD mn) by country

			Target country																																		
			EU-15													EU-25				Nor-way	Swiss	World															Overall
Acquirer country			FR	BE	DE	DK	ES	FI	GB	IE	IT	LU	NL	SE	Tot.	CZ	HU	PL	Tot.	NO	CH	AU	BM	BR	CA	CL	HK	IL	JP	LK	MX	SG	TW	US	Tot.	Total
EU-15	FR	No.	4	3	1				3	1			2		14						1	1		1	1		1		1					4	9	24
		USD bn.	13.5	4.1	0.5				2.4	0.2			3.1		23.7						0.2	0.8		0.5	0.3		0.1		2.0					2.3	5.9	29.9
	AT	No.									1				1	1	1		2																	3
		USD bn.									0.1				0.1	0.1	1.7		1.8																	2.0
	BE	No.		2											2																					2
		USD bn.		1.1											1.1																					1.1
	DE	No.	1		5					1	3	1		1	12																			5	5	17
		USD bn.	5.2		5.8					0.4	1.3	0.1		0.1	12.9																			10.6	10.6	23.5
	DK	No.				3								1	4																			1	1	5
		USD bn.				0.5								0.5	1.1																			0.6	0.6	1.7
	ES	No.					1								1																					1
		USD bn.					0.3								0.3																					0.3
	FI	No.						2							2			1	1																	3
		USD bn.						0.4							0.4			0.2	0.2																	0.5
	GB	No.	2		1		1		24	1		1	1	1	32							1	1		2	1			1			1	1	9	17	49
		USD bn.	2.3		0.3		0.3		49.4	0.4		1.3	0.8	7.0	61.8							0.2	0.2		0.7	0.1			0.2			0.2	0.1	6.8	8.5	70.4
	IE	No.								1					1																					1
		USD bn.								2.7					2.7																					2.7
	IT	No.	3		2						15				20						1							1						1	2	23
		USD bn.	1.2		5.5						17.6				24.3						1.2							0.3						0.3	0.6	26.1
	NL	No.							1						1										3	1					2			5	11	12
		USD bn.							1.2						1.2										0.8	0.1					1.0			20.8	22.7	23.9
	SE	No.																		1																1
		USD bn.																		3.8																3.8
Total		No.	10	5	9	3	2	2	28	4	19	2	3	3	90	1	1	1	3	1	2	2	1	1	6	2	1	1	2		2	1	1	25	45	141
EU-15		USD bn.	22.3	5.2	12.0	0.5	0.6	0.4	53.0	3.7	19.0	1.4	3.9	7.6	129.7	0.1	1.7	0.2	2.0	3.8	1.4	1.0	0.2	0.5	1.7	0.2	0.1	0.3	2.2		1.0	0.2	0.1	41.4	49.0	185.9
Norway	NO	No.																		1																1
		USD bn.																		0.5																0.5
Swiss	CH	No.	3	2	1		2		6		1		1		16						2									1	1			14	16	34
		USD bn.	1.3	0.2	1.1		0.4		40.8		0.4		0.3		44.4						2.4									0.1	0.1			19.8	20.0	66.9
Overall		No.	13	7	10	3	4	2	34	4	20	2	4	3	106	1	1	1	3	2	4	2	1	1	6	2	1	1	2	1	3	1	1	39	61	176
Total		USD bn.	23.6	5.4	13.1	0.5	1.0	0.4	93.8	3.7	19.4	1.4	4.2	7.6	174.1	0.1	1.7	0.2	2.0	4.4	3.8	1.0	0.2	0.5	1.7	0.2	0.1	0.3	2.2	0.1	1.1	0.2	0.1	61.2	69.0	253.3

Sources: Thomson Financial SDC Platinum, Dealogic M&A database, press research

Table 2 documents the distribution of transactions by country. British insurers were most active acquirers (49 transactions worth USD 70.4 bn), the second most popular targets (34 transactions worth USD 93.8 bn) and generally accounted for most transactions (24 national transactions worth USD 49.4 bn). Only U.S. insurers were acquired more frequently (39 transactions), however with a notably smaller volume (USD 61.0 bn). Swiss acquirers were almost as active as British insurers with 34 transactions worth USD 66.9 bn, but only involved 4 times as target. The leading role of British insurers in European M&A is also reflected in the data sample of Cummins and Weiss (2004).

With respect to industry activity, *Table 3* illustrates that life insurers were the most frequent acquirers (131 transactions worth USD 203.9 bn), accounting for 80% of the total transaction volume between 1990 and 2005. Further on, life insurers were the preferred target (103 transactions worth USD 177.0 bn). Consequently, life-life transactions dominated M&A activities in general (85 transactions worth USD 162.5 bn, 63% of total volume). The largest average transaction volume was reached by a single merger between a P&C insurer and an investment management company (USD 3.3 bn; acquisition of Pimco by Allianz), whilst the largest average formed by multiple acquisitions was reached by life insurers buying agents/brokers (9 transactions with the average of USD 2.6 bn).

Table 3 presents the relative transaction volumes compared to the market value of the acquirers at announcement. On average, transactions amounted to 10.8% of the acquirers' market capitalization. Diversifying transactions however were smaller compared to either industry or geographically focused transactions. Within-industry transactions showed 14.1% and national transactions even 36.3%. The latter include also the only transactions, where the transaction volume was larger than the acquirer.

Table 3 : Number of transactions and transaction volume by industry

		Target industry[a]						
Acquirer industry[a]		**Life**	**P&C**	**Reinsur-ance**	**Agents/ Brokers**	**Invest. Mgmt.**	**Other**	**Total**
Life	No.	85	18	2	9	11	6	131
	USD bn	160.7	6.9	1.7	23.3	10.0	1.4	203.9
P&C	No.	7	7	1	0	1	0	16
	USD bn	12.0	7.8	0.5	0.0	3.3	0.0	23.6
Reinsur-	No.	11	8	9	0	0	0	28
ance	USD bn	4.2	9.5	11.8	0.0	0.0	0.0	25.5
Agents/	No.	0	0	0	0	0	1	1
Brokers	USD bn	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Other	No.	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	USD bn	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total	No.	103	33	12	9	12	7	176
	USD bn	177.0	24.2	14.0	23.3	13.3	1.6	253.3

[a] Industry clusters are built from the following SICs: Agents/Brokers (6411), Invest. Mgmt. (6722), Life (6311), P&C (6321, 6331, 6351), Reinsurance (reclassified), other (6371, 6399, 6719)
Sources: Thomson Financial SDC Platinum, Dealogic M&A database, press research

Table 4 : Relative volume of transactions compared to acquirer size

Year of announce-ment	Deal volume / market value of acquirer[a]					
	Geographical focus			Industry focus		
	National	Cross-border within Europe[b]	Cross-border outside of Europe	Within-industry[c]	Cross-industry	Total
1990	163.8%	9.8%	15.2%	7.4%	22.1%	15.9%
1991	35.3%	7.3%	n/a	7.3%	35.3%	14.7%
1992	169.9%	34.1%	6.9%	56.3%	6.9%	28.0%
1993	16.1%	39.4%	5.0%	39.4%	8.1%	30.3%
1994	178.2%	13.7%	2.4%	18.8%	7.8%	12.8%
1995	10.6%	n/a	15.6%	25.2%	7.2%	14.0%
1996	62.3%	16.9%	28.3%	55.5%	11.0%	38.3%
1997	30.0%	23.7%	5.3%	14.2%	22.0%	18.0%
1998	55.4%	3.7%	2.6%	11.0%	1.0%	6.9%
1999	30.9%	6.4%	5.1%	13.1%	4.4%	8.5%
2000	67.8%	27.6%	4.0%	28.3%	2.0%	14.4%
2001	7.9%	4.2%	1.8%	2.2%	2.5%	2.3%
2002	43.0%	31.9%	n/a	35.7%	40.5%	38.0%
2003	10.0%	3.4%	3.9%	6.4%	2.5%	5.7%
2004	n/a	11.6%	2.3%	11.4%	5.1%	8.1%
2005	103.3%	17.0%	13.0%	20.2%	15.2%	17.7%
Total	**36.3%**	**13.3%**	**4.9%**	**14.1%**	**6.8%**	**10.8%**

[a] Total deal volume in USD divided by total market value of acquirers at announcement date

[b] Europe is defined as all member states of EU-25, Norway and Switzerland

[c] Industry clusters are built from the following SICs: Agents/Brokers (6411), Invest. Mgmt. (6722), Life (6311), P&C (6321, 6331, 6351), Reinsurance (reclassified), other (6371, 6399, 6719)

Sources: Thomson Financial SDC Platinum, Dealogic M&A database, press research

IV. Methodology

To examine value creation of M&A transactions in the insurance industry with European acquirers the short-term analyses follow the event study methodology devised by Dodd and Warner (1983), and Brown and Warner (1985). We additionally examine absolute created value, defined as the market value of the acquirers and targets multiplied with the cumulative abnormal return. The long-term analyses are based on buy-and-hold-abnormal returns (BAHRs) relative to a control-firm benchmark, as suggested by Lyon et al. (1999), Barber and Lyon (1997), and Kothari et al. (2004). Here, we compute absolute created value as the market value of the acquirer multiplied with its BAHR.

The abnormal returns $AR_{i,t}$ of firm i at time t for each acquirer and target is measured as the difference between daily total returns to shareholder $R_{i,t}$ of firm i and the benchmark return $E(R_{i,t})$ for firm i

$$AR_{i,t} = R_{i,t} - E(R_{i,t}) \quad (1)$$

Abnormal returns of the acquirer $AR_{acquirer,t}$ and the target $AR_{taget,t}$ are weighted with their market values MV_t to compute the combined entity return $AR_{transaction,t}$

$$AR_{transaction,t} = \frac{AR_{acquirer,t} \cdot MV_{acquirer,t} + AR_{t\arg et,t} \cdot MV_{t\arg et,t}}{MV_{acquirer,t} + MV_{t\arg et,t}} \quad (3)$$

Benchmark returns are defined as the OLS-regression estimate of the standard market model on the estimation window at times t between [-270; -21] trading days before announcement. The market return $R_{M,t}$ is defined as the daily TRS of the Datastream European Insurance Index. The CARs are the equally - weighted average of the abnormal returns on a specified event period from times t_{e1} to t_{e2}. We define value created as the market value of the combined entity at the end of the estimation period (t = -21 days) multiplied with the CER on the entire event period [-20; +20]. The significance of mean abnormal returns and cumulative abnormal returns is tested with the parametric Dodd-Warner Z-statistic (Dodd and Warner, 1983), and the test-statistic suggested by Boehmer et al. (Boehmer et al., 1991; Harrington and Shrider, 2007). The significance of the difference between mean abnormal returns and cumulative mean abnormal returns of two samples is tested with the parametric two-sample t-test.

To examine long-term value creation buy-and-hold abnormal returns $BAHR_i$ for individual acquirers are computed from monthly firm TRS $R_{i,t}$ and benchmark TRS $E(R_{i,t})$ based on the model

$$BAHR_i = \prod_{t=1}^{t_{e2}}\left(1+R_{i,t}\right)-\prod_{t=1}^{t_{e2}}\left(1+E(R_{i,t})\right) \quad (3)$$

We study value generation in the event windows for times t between [0; +1y], [0; +2y], and [0; +3y] years after the announcement date. The benchmark returns are computed based on the control firm approach (Lyon et al., 1999; Barber and Lyon, 1997; Kothari et al., 2004). The control firms are selected annually from the constituents of the Datastream European Insurance Index (DEII) based on firm size and book-to-market ratio:

- For each acquirer and each period in the event window, a short list of DEII constituents with firm size between 70% and 130% of the acquirer[6] is created.
- For each acquirer and each period in the event window, a single control firm from this short list based on the lowest difference in book-to-market ratio between the firms contained in the short list and the acquirer is selected.

The computation of the net value generated is based on the buy-and-hold abnormal return over 3 years. The significance of BAHRs is tested with the two-sided t-statistic and the skewness-adjusted two-sided t-statistic (Lyon et al., 1999). Further on, a bootstrapped version of the skewness-adjusted two-sided t-statistic is implemented, following the procedure devised by Lyon et al. (1999).

V. Empirical Findings

a) *Short-term value creation*

Overall value creation (hypothesis 1): The results presented in *Table 5* show that M&A created value of USD 1.8 bn in the 20 days before and after announcement, with a significant CER of 2.1%. These findings support hypothesis 1 on the short-term horizon.

Table 5 : Results on short-term value creation

	Number of trans-actions	Volume of trans-actions[a]	Value creation[b]	Success ratio[c]	CER[d]	CAR Acquirer[d]	CAR Target[d]
Entire sample	54	152.3	1.8	48%	2.1% *	0.5%	13.8% ****
Timing of transaction							
Bottom	11	15.9	-0.9	36%	-3.3%	-2.1%	4.5%
Upswing	7	19.8	-0.6	57%	6.3%	-1.7%	15.6% ***
Peak	30	77.3	0.5	43%	2.0%	0.9%	16.0% **
Downturn	6	39.2	2.7	83%	7.2% **	5.6% **	17.9% *
Transaction strategy							
National, within-industry	11	48.0	1.7	64%	2.6%	-0.1%	8.8% ***
National, cross-industry	7	7.5	-0.5	43%	-0.7%	-5.0%	16.2%
Cross-border EU, within-industry	10	35.7	1.5	70%	6.3%	6.7% *	16.9%
Cross-border EU, cross-industry	4	6.2	-0.4	25%	-0.2%	-0.1%	5.4%
Cross-border world, within-industr	10	45.7	0.4	40%	1.4%	0.0%	17.1% **
Cross-border world, cross-industry	12	9.1	-0.9	33%	1.0%	-0.4%	14.5%
Transaction experience							
No experience	25	44.5	-1.1	48%	1.3%	0.2%	8.3% **
Little experience	2	7.4	0.6	100%	3.1% ****	-0.9% ****	9.1% **
Extensive experience	12	34.0	1.2	58%	3.9% *	1.5%	18.7% *
Most experience	15	66.3	1.1	33%	1.6%	0.2%	19.7%

[a] In USD bn.

[b] Defined as market value of acquirers and targets at the end of the estimation period [-21], multiplied with cumulative abnormal return of the combined entity [-20; +20] days around the announcement day. In USD bn.

[c] Defined as number of value creating transactions divided by number of transactions.

[d] On the event window [-10; +10] days around the announcement day.

*-**** Statistically significant at 10%, 5%, 1% or 0.1% level according to Boehmer test

[6] Lower and upper bound of the size range are extended by 10%pts, if there is no benchmark firm in the original size range

The findings are consistent with prior research in that insurance M&A creates value, but reveal that abnormal returns in Europe tend to be smaller than those in the U.S. and global market. For the U.S., Akhigbe and Madura (2001) report a significant CER of 13.11% between [-1; 0], and Cummins and Xie (2005) find a significant CER of 3.71% between [-1; +1]. Floreani and Rigamonti (2001) obtain a significant CER of 5.27% on their international sample, while the highest significant CER in our analyses is 2.06% in [-10; +10].

Results on timing of transaction (hypothesis 2): Transactions during the peak phase of the M&A cycle generated value in the short-term, while transactions in the bottom phase destroyed value on a short horizon.[7] Although abnormal returns mostly remain insignificant in these phases,[8] the differences between CERs are significant on most event windows. A CER of 4.1% is achieved on the event window [-5; +5]. Thus, we conclude that hypothesis 2 does not hold on the short-term horizon, but rather the opposite.

Results on transaction strategy (hypothesis 3): National and cross-border EU within-industry transactions generated most value in the short-term while cross-industry transactions generally destroyed value at the announcement. Cross-industry transactions yielded an insignificant negative CER on a national (-0.7%) and cross-border EU (-0.2%) basis. An analysis of the difference between CERs yields mixed results. These findings neither consistently support nor oppose hypothesis 3. However, in the short-term geographically diversifying transactions within the boundaries of the EU are overall rewarded by capital markets, and industry focus generally creates more value than cross-industry M&A.

Consistently, prior research reports that focus strategies are superior to diversification strategies. Floreani and Rigamonti (2001) show that national transactions yield higher CERs (4.63% in the EU, 7.37% in the U.S.) than cross-border transactions (3.43% and 5.01%, respectively). Cummins and Xie (2005) observe a CER of 4.08% for U.S. within-state transactions, and 3.64% of U.S. cross-state transactions. Further on, they present evidence that within-industry transactions yield a CER of 5.01%, compared to a CER of -0.20% of cross-industry transactions.

Results on transaction experience (hypothesis 4): While inexperienced acquirers significantly destroyed value for their shareholders, the combined entity returns reveal positive results and indicate some wealth transfer from acquirer to target shareholders. The highest and significant abnormal returns were reported for entities with little experience (3.1%) and extensive experience (3.9%). However, the difference to CERs of acquirers with no or most experience is not significant. We interpret this finding as evidence that capital markets do not consider transaction experience in their short-term reactions to M&A announcement.

i. *Multivariate analyses*

In this section, we analyze the joint influence of transaction timing, strategy and experience, while controlling for size, regional and industry factors on short-term value creation. We apply a multivariate linear regression model, and test three major assumptions of ordinary least square fitting: Model specification based on Ramsey's (1969) Reset test, absence of or weak multicollinearity according to Variance Inflation Factors (VIF), and normal distribution of regression residuals using the Kolmogorov-Smirnov (K-S) test.

The categorical independent variable *TIMING* is modeled as three dichotomous variables with reference category "bottom phase" in order to test peak time against bottom time transactions, *STRATEGY* as five dichotomous variables with reference "national/within-industry" to test diversification against focus, *EXPERIENCE* as three dichotomous variables with reference "no experience" to test transactions of experienced acquirers against those of inexperienced acquirers, *ACQREGION* and *TARREGION* as four dichotomous variables with reference "EU-15", and *ACQINDUSTRY* and *TARINDUSTRY* as four dichotomous variables with reference "P&C". *Table 8-1* in the appendix shows the coding of the categorical variables and presents descriptive statistics for metric and categorical variables.

The regression results are presented in *Table 6*. The CER and acquirer CAR model are well specified according to the Ramsey Reset test. Only weak multicollinearity is present between independent variables: All VIFs are below the critical value of 10, but those of *LNSIZE* and *EXPERIENCE*3 are above 5. A linear ordinary least squares regression of all independent variables except for *LNSIZE* against *LNSIZE* as dependent variable reveals that multicollinearity is driven by *EXPERIENCE*, *STRATEGY*, and *ACQREGION*. The hypothesis of normally distributed regression residuals cannot be rejected.

[7] The sub samples of transactions during upswing and downturn shall not be interpreted due to insufficient observations.

[8] The only significant result is a CER of -3.1% in the event window [-5; +5] in the bottom phase.

Table 6 : Results of short-term multivariate regression analysis

	CER		CAR Acquirer		CAR Target		VIF
Model specification	DF	sig DF	DF	sig DF	DF	sig DF	
Ramsey Reset	0.0279	97.3%	0.0702	93.2%	8.5751	0.1%	
Normality of residuals	Z	asy sig	Z	asy sig	Z	asy sig	
K-S	0.5882	88.0%	0.8644	44.4%	0.5206	94.9%	
Model fit	R-square	Adj. R-square	R-square	Adj. R-square	R-square	Adj. R-square	
R-squared	0.6686	0.4145	0.5592	0.2213	0.4707	0.0650	
Model significance	Coeff.	F/t	Coeff.	F/t	Coeff.	F/t	
Entire model (F)		2.6313 ***		1.6549 *		1.1601	
(Constant)	0.0610	0.7823	-0.0101	-0.1086	0.7179	1.8283 *	
TIMING1	0.1126	4.1876 ****	0.0616	1.9093 *	0.3455	2.5502 **	2.8
TIMING2	0.0526	2.6292 **	0.0571	2.3795 **	0.2480	2.4586 **	3.4
TIMING3	0.0605	2.4905 **	0.0407	1.3986	0.2053	1.6778	2.0
STRATEGY1	-0.0144	-0.5953	-0.0166	-0.5725	0.0903	0.7429	2.2
STRATEGY2	0.0479	1.9539 *	0.0501	1.7043 *	0.1838	1.4891	3.1
STRATEGY3	0.0671	1.7142 *	0.0326	0.6947	0.2639	1.3385	3.6
STRATEGY4	0.0646	2.2481 **	0.0558	1.6200	0.3173	2.1928 **	4.2
STRATEGY5	0.0446	1.7624 *	0.0181	0.5958	0.1508	1.1818	3.8
EXPERIENCE1	-0.0663	-1.4705	-0.1270	-2.3494 **	-0.1028	-0.4523	2.5
EXPERIENCE2	-0.0003	-0.0146	-0.0352	-1.4483	0.1105	1.0820	2.4
EXPERIENCE3	0.0335	1.1316	-0.0135	-0.3800	0.2136	1.4300	6.0
LNSIZE	-0.0150	-1.6740	-0.0046	-0.4299	-0.0492	-1.0907	6.4
GROWTH	-0.0250	-1.2676	-0.0217	-0.9195	-0.3476	-3.5044 ***	1.9
LNRELVOLUME	0.0010	0.1824	-0.0004	-0.0643	-0.0245	-0.8476	3.2
ACQREGION2	-0.0223	-1.0837	-0.0064	-0.2605	-0.0942	-0.9083	2.2
TARREGION2	0.0521	0.7705	0.0483	0.5960	0.1040	0.3054	2.8
TARREGION3	0.1382	2.5827 **	0.1185	1.8467 *	-0.2120	-0.7864	1.8
ACQINDUSTRY1	0.0128	0.6250	0.0071	0.2900	-0.1601	-1.5470	3.2
ACQINDUSTRY2	-0.0148	-0.5119	-0.0260	-0.7504	-0.3119	-2.1407 **	3.9
ACQINDUSTRY3	0.0233	0.4583	0.0318	0.5226	-0.1103	-0.4309	1.6
TARINDUSTRY1	0.0344	1.6601	0.0248	0.9958	0.0321	0.3076	3.6
TARINDUSTRY3	0.0059	0.1977	0.0351	0.9756	-0.1606	-1.0619	1.6
TARINDUSTRY4	0.0101	0.3913	0.0125	0.4016	-0.0840	-0.6433	3.9

DF: Change in F-statistic between initial and extended regression model according to Ramsey Reset test.

sig DF: Significance of change in F-statistic DF. Z: Kolmogorov-Smirnov Z-statistic.

asy sig: Asymptotic significance of Z-statistic Z. F/t: F-statistic for entire model, t-statistics for coefficients.

VIF: Variance Inflation Factors for coefficients.

*-**** Statistically significant at 10%, 5%, 1% or 0.1% level according to t-test

Especially CERs in the event window [-5; +5] days around announcement are well explained. The regression yields an adjusted R-square of 0.43 on N=54 observations. Despite the large number of polytomous variables in the model, adjusted R-squares are high compared to prior research. The independent variable coefficients are jointly significant for CERs and acquirer CARs at 1% and 10% level, respectively.[9]

Two robustness tests are conducted. Firstly, a model with weaker multicollinearity is set up by stepwise exclusion of independent variables *ACQREGION* and *STRATEGY*[10], lowering the highest VIF below the threshold of 5. The adjusted R-square is reduced by 0.0115, but model and coefficient significance remains strong. Coefficients change compared to the full model, but the order of coefficients remains constant amongst indicators for independent variables. Secondly, a

[9] The indicator variable *TARREGION4* is omitted because it is perfectly linear in *STRATEGY4* and *STRATEGY5*.

[10] Amongst the suspects *LNSIZE*, *EXPERIENCE*, *STRATEGY*, and *ACQREGION*, stepwise removal of *ACQREGION* and *STRATEGY* shows least significant reduction of F-statistic, and results in a model with all VIFs below 5.

reduced model[11] is examined. This model has higher explanatory power. The independent variables are jointly significant and individual significances for the remaining independent variables change only slightly. Coefficients change compared to the full model, but the order of coefficients remains constant amongst indicators for independent variables. *Table 8-3* in the appendix presents detailed results.

The obtained results counter hypothesis 2. Mostly significant positive coefficients of *TIMING* variables show that short-term abnormal returns of the acquirer, the target, and the combined entity are higher in the upswing, peak, or downturn phase of the M&A cycle than in the bottom phase. However, hypothesis 3 is supported. Except for national cross-industry transactions, all *STRATEGY* coefficients are significantly positive for combined entity returns, implying that diversifying transactions create more value than geographical and industry focused transactions. A definite conclusion on hypothesis 4 cannot be drawn from the results, since coefficients for EXPERIENCE indicators are mostly insignificant. Similarly, coefficients of control variables are also mostly insignificant.

Prior research only addresses transaction strategy in short-term multivariate analyses. Our results are consistent with Floreani and Rigamonti's (2001) observation that cross-border transactions within Europe have negative impact on the acquirers' CARs, whilst cross-border world deals by European acquirers positively affect their CARs. However, Cummins and Xie (2005) find on their U.S. P&C sample that any geographical or industry diversification is significantly worse than full geographical and industry focus with respect to CARs of acquirers.

b) Long-term value creation

i. *Univariate analyses*

Results on overall value creation (hypothesis 1): The results presented in *Table 7* show that M&A created no value on a long-term horizon. BAHRs are insignificant negative on all examined time horizons,[12] leading us to conclude that hypothesis 1 does not hold in the long run. From prior research, only Boubakri et al. (2006) carry out a long-term analysis, and find that U.S. P&C acquirers achieved a positive BAHR of 57.3% on a 3-year horizon.

Results on timing of transaction (hypothesis 2): Significant BAHRs are obtained for transactions in the upswing (-15.3% after one year) and peak (-13.5% after two years) of the M&A market. Acquirers in the upswing phase perform significantly worse than bottom phase acquirers according to 1-year and 2-year BAHRs. The latter results provide weak support for hypothesis 2.

Results on transaction strategy (hypothesis 3): Only fully diversifying transactions yielded a significant positive BAHR after three years (14.0%), which is significantly higher than abnormal returns of all other strategies except for national within-industry transactions. Cross-border EU transactions significantly destroyed value (BAHRs below -25%). Cross-border EU within-industry transactions performed significantly worse than national within-industry and cross-border world cross-industry transactions, and cross-border EU cross-industry transactions performed significantly worse than cross-border EU within-industry and cross-border world transactions. These results support hypothesis 3 on the long-term horizon, but contradict findings of Boubakri et al. (2006) on a U.S. P&C sample.

Results on transaction experience (hypothesis 4): None of the experience subsamples show consistent significant results. Hypothesis 4 is not supported.

[11] Based on the full model, coefficients with change of F-statistic less significant than 10% are excluded stepwise. The following independent variables are excluded (in order): *LNRELVOLUME*, *ACQINDUSTRY*, *ACQREGION*, *EXPERIENCE*, *GROWTH*, *LNSIZE*, *STRATEGY*. Afterwards, independent variables more significant than 10% would be included stepwise. No variable fulfills this criterion.

[12] The difference implies that large acquirers achieved higher BAHRs than small acquirers, since value creation is a value-weighted aggregation of individual firm BAHRs, and BAHRs are an equally-weighted aggregation thereof.

Table 7 : Results of univariate analyses on long-term value creation

	Number of trans-actions	Volume of trans-actions[a]	Value creation[b]	Success ratio[c]	1-year BAHR	2-year BAHR	3-year BAHR
Entire sample	158	229.0	20.6	49%	-4.7%	-10.0%	-6.6%
Timing of transaction							
Bottom	58	37.6	51.2	47%	-1.7%	-1.3%	-8.2%
Upswing	16	26.7	-17.8	38%	-15.3% *	-34.1%	-23.5%
Peak	69	123.2	-69.6	48%	-4.6%	-13.4% **	-4.0%
Downturn	15	41.6	56.8	73%	-5.8%	-2.0%	6.2%
Transaction strategy							
National, within-industry	36	77.4	13.8	61%	-4.5%	-11.0%	9.4%
National, cross-industry	18	12.2	-18.2	33%	-2.0%	-24.8%	-13.0%
Cross-border EU, within-industry	29	50.3	-58.0	28%	-2.9%	-10.8%	-26.2% ***
Cross-border EU, cross-industry	19	29.8	-0.2	47%	-16.4% *	-38.0% ***	-29.5% *
Cross-border world, within-industr	25	37.5	39.6	56%	1.1%	2.9%	-10.3%
Cross-border world, cross-industry	31	21.6	43.6	58%	-5.8%	7.4%	14.0% *
Transaction experience							
No experience	67	63.6	-36.5	54%	-2.1%	-3.2%	2.8%
Little experience[e]	5	11.7	-8.9	20%	-18.2% ***	-61.4%	-61.7%
Extensive experience	33	56.9	-22.9	39%	-9.2%	-23.5%	-26.8%
Most experience	42	90.2	96.3	55%	-5.0%	-4.5%	3.5%

[a] In USD bn.

[b] Defined as market value of acquirers and targets at the end of the estimation period [-21], multiplied with cumulative abnormal return of the combined entity [-20; +20] days around the announcement day. In USD bn.

[c] Defined as number of value creating transactions divided by number of transactions.

[d] On the event window [-10; +10] days around the announcement day.

[e] Statistical significance evaluated based on skewness adjusted p-value without bootstrapping due to insufficient observations.

*-**** Statistically significant at 10%, 5%, 1% or 0.1% level according to Boehmer test

ii. *Multivariate analyses*

In this section, we analyze the joint influence of transaction timing, strategy and experience on long-term value creation, while controlling for size, regional and industry factors. We model the categorical variables and build the multivariate linear regression model analogous to section 5.1.1. *Table 8-2* in the appendix presents the coding of the categorical variables and descriptive statistics for metric and categorical variables. Additionally, we include the dichotomous variable *TARNOTLISTED* to distinguish between listed (N = 51, *TARNOTLISTED* = 0) and non-listed targets (N = 107, *TARNOTLISTED* = 1), i.e. to control for differences between the short- and long-term deal sample.

Table 8 reports the regression results of the full model and the reduced model on 3-year BAHRs. Both models are well specified according to the Ramsey Reset test. The independent variables are only weakly multicollinear. The hypothesis of normally distributed regression residuals cannot be rejected. Both models explain BAHRs well, and the independent variables are jointly significant above 5% level. However, EXPERIENCE is the only hypothesis-related and significant variable in the full model. The reduced model additionally yields significant coefficients for STRATEGY.[13] The results provide no support for hypothesis 2. Regression coefficients of indicator variables for the upswing, peak and downturn phase of the M&A cycle are insignificant.

With respect to transaction strategy, we find strong support for hypothesis 3. The reduced model yields significantly positive coefficient estimates for the indicator variable STRATEGY5. Full diversification of transactions significantly increases the 3-year BAHR compared to full focus transactions. In contrast, industry-focus in cross-border EU transactions significantly destroys value. These results are contrary to findings of Boubakri et al. (2006), who observe significantly lower BAHRs for cross-border transactions on their U.S. P&C sample.

[13] A regression on 2-year BAHRs additionally yields significant estimates for TIMING coefficients. The respective results are mentioned in the text.

Table 8 : Results of long-term multivariate regression analysis

	BAHR			**BAHR** (Reduced)		
Model specification	DF	sig DF		DF	sig DF	
Ramsey Reset	0.0028	99.7%		0.0317	96.9%	
Normality of residuals	Z	asy sig		Z	asy sig	
K-S	0.8467	47.0%		0.8781	42.4%	
Model fit	R-square	Adj. R-square		R-square	Adj. R-square	
R-squared	0.2645	0.1125		0.2486	0.1626	
Model significance	Coeff.	F/t	VIF	Coeff.	F/t	VIF
Entire model (F)		1.7405 **			2.8902 ****	
(Constant)	-0.9090	-1.4860		-0.8520	-2.8610 ***	
TIMING1	-0.2160	-0.9100	1.49			
TIMING2	-0.1060	-0.6220	2.08			
TIMING3	-0.0330	-0.1400	1.38			
STRATEGY1	0.1820	0.7170	1.88	0.1510	0.6410	1.72
STRATEGY2	-0.3190	-1.5580	1.82	-0.3390	-1.8130 *	1.61
STRATEGY3	-0.1030	-0.3800	2.25	-0.1020	-0.4290	1.83
STRATEGY4	-0.1150	-0.4990	2.04	-0.1250	-0.5980	1.80
STRATEGY5	0.3880	1.5280	2.94	0.3830	1.6710 *	2.55
EXPERIENCE1	-0.5740	-1.5800	1.26	-0.6460	-1.9410 *	1.12
EXPERIENCE2	-0.3160	-1.8660 *	1.45	-0.3260	-2.0880 **	1.30
EXPERIENCE3	-0.0280	-0.1230	3.04	-0.0900	-0.5560	1.65
LNSIZE	0.0190	0.2590	3.83			
GROWTH	0.3830	2.5140 **	1.51	0.3700	2.9190 ***	1.11
LNRELVOLUME	0.0430	0.7220	2.99			
ACQREGION2	-0.0830	-0.4560	1.54			
TARREGION1	0.3940	0.6680	1.26			
TARREGION2	-0.1960	-0.4760	1.21			
TARREGION3	-0.2430	-0.4430	1.09			
ACQINDUSTRY1	0.2810	1.2150	3.01	0.1930	0.9300	2.59
ACQINDUSTRY2	-0.0880	-0.3090	3.21	-0.2380	-0.9850	2.47
ACQINDUSTRY3	0.8980	1.1160	1.18	0.8650	1.1250	1.14
TARINDUSTRY1	0.4640	2.3870 **	2.69	0.5040	2.7860 ***	2.46
TARINDUSTRY3	-0.1840	-0.6050	1.45	-0.1710	-0.5940	1.37
TARINDUSTRY4	0.2320	1.0650	2.06	0.2690	1.3660	1.79
TARNOTLISTED	-0.0340	-0.2210	1.48			

DF: Change in F-statistic between initial and extended regression model according to Ramsey Reset test.
sig DF: Significance of change in F-statistic DF. Z: Kolmogorov-Smirnov Z-statistic.
asy sig: Asymptotic significance of Z-statistic Z. F/t: F-statistic for entire model, t-statistics for coefficients
VIF: Variance Inflation Factors for coefficients.
*-**** Statistically significant at 10%, 5%, 1% or 0.1% level according to t-test

However, hypothesis 4 is partially opposed by the obtained results. Little or extensive experience even has significant negative value impact, and the difference between BAHRs for inexperienced and most experienced acquirers is significantly negative. Thus there may be two distinct classes of insurers: Those focused on organic growth and those "in the M&A game". The findings of Boubakri et al. (2006) are directionally consistent. They report that BAHRs increase significantly with the number of transactions by the acquirer in the same year.

VI. Conclusion

We analyze short- and long-term value creation by M&A of European insurers between 1990 and 2005 and the influence of major determinants (transaction timing, geographical and industry strategy, and transaction experience), while controlling for size, region and sub-industry of the transaction partners.

Our analyses yield significant positive CERs around announcement. However, capital markets seemed less enthused by European transactions compared to U.S. or global transactions: Further on, we find insignificant BAHRs one to three years after announcement whereas Boubakri et al. (2006) detect strongly positive BAHRs for the U.S. market (e.g., 57.3% on a 3-year horizon). Since the performance differential between Europe and the U.S. occurs on the short- and long-term horizon, we assume that investors' short-term hesitance towards European transactions may be driven by rationale considerations.

Capital markets reward transactions during phases of strong M&A market momentum shortly around announcement. CERs in the peak phase are 5.3% higher (significant at 5% level) than in the bottom phase. By contrast, BAHRs in phases of strong momentum are (partially significant) negative. Investors' appreciated diversifying transactions shortly around announcement. Geographical diversification increases CERs by more than 4% compared to fully focused transactions. These results are consistent with Floreani and Rigamonti's (2001) observation that cross-border transactions within Europe have negative impact on the acquirers' CARs, whilst cross-border world deals by European acquirers positively affect their CARs. Over a three year horizon, only full diversification across geographies and industries adds significant value (3-year BAHR +38.3%) compared to fully focused transactions. Cross-border European expansion tends to lead to a decrease of BAHRs. These results are contrary to findings of Boubakri et al. (2006), who observe significantly lower BAHRs for cross-border transactions on their U.S. P&C-focused sample. We suppose that short-term capital market reactions express investors' high expectations on benefits from international expansion, especially European integration, but long-term results imply that realization of full benefits from focus (e.g., market power, economies of scale) or diversification (e.g., economies of scope) requires an "either-or" strategy. Further on, the inferiority of cross-border European transactions indicates that M&A momentum from harmonization of European regulation may have lead management to pursue transactions even in case of doubtful rationale.

Lastly, we examine the influence of acquirers' transaction experience on value creation, and find that short-term reactions of capital markets do not depend on transaction experience. In the long-term, transactions by acquirers with little or extensive experience even create less value than those by inexperienced or most experienced acquirers. We assume that a positive experience effect may still exist, but that it realizes only for truly M&A focused players, whereas acquirers with no experience may have chosen their transactions more carefully.

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Appendix

Table 8-1 : Descriptive statistics for variables in short-term multivariate regression model

Statistics	*CER**	*CAR Acquirer**	*CAR Target**	*LNSIZE*	*GROWTH*	*LNRELVOLUME*
Mean	1.1%	-0.6%	12.1%	8.9781	1.3072	-1.8792
St.dev.	5.2%	5.4%	20.8%	1.5536	0.3803	1.7021
Min	-8.9%	-17.1%	-9.8%	4.6958	0.3193	-5.7228
Max	17.0%	20.9%	91.4%	11.6487	3.8566	1.2295
N	54	54	54	54	54	54

Cat.	*TIMING*	Freq.	*STRATEGY*	Freq.	EXPERIENCE	Freq.
0**	Bottom	11	National/within-industry	11	No experience	25
1	Upswing	7	National/cross-industry	7	Little experience	2
2	Peak	30	Cross-border EU/within-industry	10	Extensive experience	12
3	Downturn	6	Cross-border EU/cross-industry	4	Most experience	15
4			Cross-border world/within-industry	10		
5			Cross-border world/cross-industry	12		
N	total	54	total	54	total	54

Cat.	*ACQREGION*	Freq.	*TARREGION*	Freq.	*ACQINDUSTRY*	Freq.	*TARINDUSTRY*	Freq.
0**	EU-15	44	EU-15	30	P&C	8	P&C	9
1	EU-25	0	EU-25	0	Life	36	Life	30
2	Swiss	10	Swiss	1	Re	9	Re	0
3	Norway	0	Norway	1	Agents/Brokers	1	Agents/Brokers	3
4	World	0	World	22	Other	0	Other	12
N	total	54	total	54	total	54	total	54

* Event window [-5; +5].

** Reference category.

Table 8-2 : Descriptive statistics for variables in long-term multivariate regression model

Statistics	*BAHR**	*LNSIZE*	*GROWTH*	*LNRELVOLUME*
Mean	-6.6%	8.5095	1.2836	-2.1693
St.dev.	75.6%	1.6172	0.4751	1.6956
Min	-246.2%	4.6958	0.3193	-5.7228
Max	284.6%	11.6487	3.8566	1.2295
N	158	158	158	158

Cat.	*TIMING*	Freq.	*STRATEGY*	Freq.	*EXPERIENCE*	Freq.
0*	Bottom	11	National/within-industry	36	No experience	67**
1	Upswing	7	National/cross-industry	18	Little experience	5
2	Peak	30	Cross-border EU/within-industry	29	Extensive experience	33
3	Downturn	6	Cross-border EU/cross-industry	19	Most experience	42
4			Cross-border world/within-industry	25		
5			Cross-border world/cross-industry	31		
N	total	54	total	158	total	147**

Cat.	*ACQREGION*	Freq.	*TARREGION*	Freq.	*ACQINDUSTRY*	Freq.	*TARINDUSTRY*	Freq.
0*	EU-15	125	EU-15	94	P&C	15	P&C	30
1	Other EU-25	0	Other EU-25	2	Life	116	Life	90
2	Swiss	32	Swiss	4	Re	26	Re	0
3	Norway	1	Norway	2	Agents/Brokers	1	Agents/Brokers	9
4	World	0	World	56	Other	0	Other	29
N	total	158	total	158	total	158	total	158

* 3-year horizon.
** Reference category.
*** 1st quartile overrepresented due to large amount of acquirers with no transaction in last three years.
**** Only transactions after 31.12.1992 allocated due to lack of transaction history.

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Table 8-3 : Results of robustness tests of short-term multivariate regression model

	CER (Full model)			**CER** (Weaker multicoll.)			**CER** (Reduced)		
Model specification	DF	sig DF		DF	sig DF		DF	sig DF	
Ramsey Reset	0.0279	97.3%		2.1109	13.7%		0.0228	97.7%	
Normality of residuals	Z	asy sig		Z	asy sig		Z	asy sig	
K-S	0.5882	88.0%		0.7713	59.1%		0.7226	67.3%	
Model fit	R-square	Adj. R-square		R-square	Adj. R-square		R-square	Adj. R-square	
R-squared	0.6686	0.4145		0.6058	0.4030		0.5400	0.4459	
Model significance	Coeff.	F/t	VIF	Coeff.	F/t	VIF	Coeff.	F/t	VIF
Entire model (F)		2.6313 ***			2.9877 ***			5.7387 ****	0.0
(Constant)	0.0610	0.7823		-0.0426	-0.7066		-0.0683	-3.9555 ****	0.0
TIMING1	0.1126	4.1876 ****	2.8	0.0955	3.8945 ****	2.3	0.0899	4.6490 ****	1.5
TIMING2	0.0526	2.6292 **	3.4	0.0433	2.4360 **	2.6	0.0336	2.3792 **	1.8
TIMING3	0.0605	2.4905 **	2.0	0.0548	2.3738 **	1.8	0.0534	2.6443 **	1.4
STRATEGY1	-0.0144	-0.5953	2.2						
STRATEGY2	0.0479	1.9539 *	3.1						
STRATEGY3	0.0671	1.7142 *	3.6						
STRATEGY4	0.0646	2.2481 **	4.2						
STRATEGY5	0.0446	1.7624 *	3.8						
EXPERIENCE1	-0.0663	-1.4705	2.5	-0.0858	-1.9397 *	2.3			
EXPERIENCE2	-0.0003	-0.0146	2.4	-0.0149	-0.8208	1.9			
EXPERIENCE3	0.0335	1.1316	6.0	-0.0064	-0.3098	2.8			
LNSIZE	-0.0150	-1.6740	6.4	-0.0038	-0.5141	4.3			
GROWTH	-0.0250	-1.2676	1.9	-0.0092	-0.5386	1.4			
LNRELVOLUME	0.0010	0.1824	3.2	-0.0027	-0.5168	2.6			
ACQREGION2	-0.0223	-1.0837	2.2						
TARREGION2	0.0521	0.7705	2.8	0.0076	0.1278	2.1	-0.0574	-1.3834	1.1
TARREGION3	0.1382	2.5827 **	1.8	0.1796	3.7841 ****	1.4	0.1716	4.0809 ****	1.2
TARREGION4				0.0199	1.3548	1.7	0.0201	1.7818 *	1.1
ACQINDUSTRY1	0.0128	0.6250	3.2	0.0181	0.9369	2.7			
ACQINDUSTRY2	-0.0148	-0.5119	3.9	-0.0009	-0.0328	3.2			
ACQINDUSTRY3	0.0233	0.4583	1.6	0.0243	0.4990	1.4			
TARINDUSTRY1	0.0344	1.6601	3.6	0.0519	2.8227 ***	2.8	0.0461	2.8907 ***	2.2
TARINDUSTRY3	0.0059	0.1977	1.6	0.0129	0.4364	1.5	0.0173	0.6393	1.4
TARINDUSTRY4	0.0101	0.3913	3.9	0.0307	1.3695	2.9	0.0266	1.4481	2.1

DF: Change in F-statistic between initial and extended regression model according to Ramsey Reset test.
sig DF: Significance of change in F-statistic DF. Z: Kolmogorov-Smirnov Z-statistic.
asy sig: Asymptotic significance of Z-statistic Z. F/t: F-statistic for entire model, t-statistics for coefficients.
VIF: Variance Inflation Factors for coefficients.
*-**** Statistically significant at 10%, 5%, 1% or 0.1% level according to t-test

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Afflux de capitaux, taux de change réel et développement financier : évidence empirique pour les pays du Maghreb

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Mots clés : Afflux de capitaux, développement financier, taux de change réel, cointégration sur données de panel.

GJMBR Classification JEL : C33, E44, F31, F32.

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Zouheir ABIDA[α] , Imen Mohamed SGHAIER[Ω]

Résumé - L'un des effets néfastes associé à l'afflux massif de capitaux dans les pays émergents est la déstabilisation de la gestion macroéconomique suite à une appréciation importante du taux de change réel. A l'aide des techniques de l'économétrie des données de panel non stationnaires, ce papier montre que, dans l'allocation optimale des ressources, le développement financier pourrait atténuer l'appréciation du taux de change réel dans les pays du Maghreb sur la période 1980-2008.

Mots clés : Afflux de capitaux, développement financier, taux de change réel, cointégration sur données de panel.

Selon la théorie classique de la croissance, la libéralisation des mouvements de capitaux est censée accélérer la croissance dans les pays à faible revenu en augmentant leur épargne nationale et en leur donnant accès aux flux de capitaux mondiaux (Fisher, 2003 ; Obstfeld, 1998 ; Summers, 2000), tout en développant le marché financier national, ce qui favorise une répartition plus rationnelle des ressources et une plus forte croissance (King et Levine, 1993). Cette vision contraste avec la conclusion de Kose et al. (2006), qui montrent que les effets de l'ouverture financière sur la croissance des pays émergents sont loin d'être avérés. Ce paradoxe s'explique sans doute par la diversité des facteurs qui favorisent le changement de régime de croissance. Mais, il répond également à une sous-estimation des contraintes macroéconomiques suscitées par l'afflux de capitaux (excès de liquidités, appréciation du taux de change réel…) et par les risques d'instabilité financière ou de crise de change. Artus et Cartapanis (2008) notaient récemment qu'une forte mobilité internationale des capitaux prive l'économie de toute possibilité de stabilisation de la production ou de l'inflation.

L'expérience de certaines économies émergentes a montré que l'appréciation réelle du taux de change induite par l'afflux de capitaux pourrait non seulement décourager l'investissement dans le secteur exposé à la compétition internationale mais aussi déstabiliser la gestion macroéconomique dans son ensemble (Corden, 1994). Cela dit, cet afflux de capitaux représente un défi à relever pour les autorités, car il peut provoquer une surchauffe ou une perte de compétitivité des économies, qu'il rend aussi plus vulnérables aux crises.

Conscients des ces problèmes, les pays émergents ont répondu de diverses manières aux entrées massives de capitaux[1] . Si certains d'entre eux ont laissé leur taux de change s'apprécier, beaucoup ont intervenus vigoureusement sur le marché des changes pour résister à ce mouvement. Les autorités monétaires se sont efforcées, à des degrés divers, de neutraliser l'impact monétaire de cette intervention par des opérations de stérilisation destinées à empêcher une expansion trop rapide de la demande intérieure. Pour atténuer l'appréciation du taux de change, le contrôle des entrées de capitaux a été mis en place ou resserré, et le contrôle des sorties de capitaux assoupli.

Dans certains pays émergents, les préoccupations économiques récentes rappellent celles qui ont marqué la première moitié des années 90, lorsque l'accès retrouvé aux marchés de capitaux internationaux – après la résolution de la crise de la dette – s'est traduit par une explosion de l'offre de capitaux extérieurs. Si l'on peut tirer un enseignement important de cette période, c'est que le choix de la réponse à apporter aux entrées de capitaux peut poser lourdement sur les résultats macroéconomiques, notamment en cas de brusque renversement de ces flux (Montiel, 1999).

Dans ce papier, nous montrons que le développement du système financier peut atténuer l'appréciation du taux de change réel induite par l'afflux de capitaux. En effet, l'approfondissement des marchés financiers locaux et le renforcement des institutions permettent d'éviter que les entrées de capitaux soient utilisées pour financer des investissements peu rentables et peu productifs dans le secteur des biens non échangeables tel que le secteur immobilier. L'impact de ces investissements sur la croissance est par conséquent limité (appréciation du taux de change réel). Athukorola et Rajapatirana (2003) montrent que l'appréciation du taux de change induite par l'afflux de capitaux a été plus forte dans les pays émergents

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[1] Voir FMI (2007a et 2007b).

d'Amérique latine par rapport à leurs homologues asiatiques au cours de la période 1985-2000. Conformément à notre hypothèse, une explication possible est que les marchés financiers en Amérique latine – malgré les intenses efforts de réforme – sont restés sous-développés par rapport à d'autres régions (De la Torre et al. 2007).

A l'aide des techniques de l'économétrie des données de panel non stationnaires et pour un échantillon de 3 pays du Maghreb (Algérie, Maroc et Tunisie) entre 1980 et 2008, nous utilisons un modèle de comportement du taux de change pour déterminer la relation entre le taux de change réel, l'afflux de capitaux et le développement financier. Notre démarche économétrique s'appuie sur les tests d'intégration sur données de panel proposés par Im et al. (2003) et sur les tests de cointégration sur données de panel développés par Pedroni (1996, 1999, 2000, 2004). L'avantage des techniques d'intégration et de cointégration sur données de panel est triple : elles permettent tout d'abord, de contourner la difficulté liée à l'étroitesse des séries temporelles, ensuite elles sont plus puissantes que les tests traditionnels sur séries temporelles et enfin l'information inter-individuelle réduit la probabilité de réaliser une régression artificielle (Banerjee, 1999).

L'article est organisé comme suit : la première section est consacrée à un bref aperçu de la littérature sur les effets des entrées de capitaux et du développement financier sur le taux de change réel. La deuxième section présente un état des lieux des flux de capitaux et du développement financier dans les pays du Maghreb. La troisième section traite de la spécification économétrique, les données et les résultats obtenus.

I. Revue De La Litterature

Après une période d'optimisme concernant le renforcement de la croissance avec l'arrivée massive de capitaux dans les pays en développement (Dornbusch, 1998 ; Fisher, 1997), une inquiétude a suscité que la mobilité internationale du capital peut être défavorable pour la stabilité macroéconomique. En particulier, de fortes entrées de capitaux, peuvent avoir des effets macroéconomiques indésirables : expansion monétaire rapide, pressions inflationnistes, appréciation du taux de change réel et hausse des déficits courants. De plus, en présence d'un taux de change fixe, la perte de compétitivité et les déséquilibres externes peuvent altérer la confiance dans la soutenabilité du régime de change et précipiter une crise financière. Dans la littérature théorique, ces effets ont été analysés par Corden (1994), Agenor (1998) et Lartey (2008).

Reinhart et Rogoff (2008) montrent que la mobilité internationale de capital peut contribuer à la vulnérabilité des économies bénéficiaires aux crises financières. En effet, la vulnérabilité d'un pays aux chocs conjoncturels peut s'aggraver, quel que soit son niveau de développement, notamment s'il n'a pas consolidé son système financier national avant de procéder à la libéralisation. Le risque d'une crise du marché financier n'est pas inhérent à la libéralisation financière, même si les deux sont étroitement liés. Ce risque réside plutôt dans les faiblesses institutionnelles du système financier, dans la réglementation prudentielle ou dans le régime de supervision. Dans ce contexte, Otker-Robe et al. (2007) soutiennent que le développement du système financier permet d'offrir un large éventail de possibilités d'investissement, une utilisation plus productive des afflux de capitaux et ainsi atténuer la contrainte de l'insuffisance de la demande d'investissement. Saborowski (2009) montre également que dans les pays en développement les entrées de capitaux, en particulier les investissements directs étrangers, conduisent à une appréciation réelle du taux de change, mais cet effet est atténué si l'économie dispose d'un système financier développé.

Du côté positif, les flux de capitaux peuvent jouer un rôle important dans l'optique de développement et de la croissance des économies. En effet, les flux de capitaux peuvent permettre de disposer de ressources additionnelles pour effectuer des investissements productifs, pour faciliter l'accès aux technologies, aux compétences en gestion et aux marchés internationaux ainsi que pour accroître la capacité concurrentielle et l'efficience. Les flux de capitaux, et notamment les flux de portefeuille, peuvent aussi offrir une source de financement efficiente pour les économies aux prises avec une pénurie de capitaux, permettre d'éliminer l'écart entre l'épargne et l'investissement, rendre possible la diversification des portefeuilles et contribuer indirectement à la diversification de la production. Les investissements directs étrangers dans les services financiers peuvent aussi servir de complément à la capacité du secteur financier intérieur, ils peuvent rendre les marchés financiers plus concurrentiels, plus robustes et plus efficients et améliorer l'infrastructure financière, en entraînant une baisse des coûts financiers et un renforcement des normes de gouvernance des entreprises.

Gruben et McLeod (1998) constatent une relation positive entre les flux de capitaux et le taux de croissance du PIB réel. En outre, Bosworth et Collins (1999), Mody et Murshid (2005) et Mileva (2008) montrent une relation positive entre les afflux de capitaux et l'investissement domestique. Toutefois, Kose et al. (2006) ne parviennent pas à montrer empiriquement une relation significative entre l'ouverture financière et la croissance des pays les plus impliqués dans ce processus. Qu'il suffise de noter, pour les besoins du présent travail, que l'idée selon laquelle l'ouverture financière génère de la croissance n'est pas admise par tous, tant s'en faut. Un certain nombre d'études font apparaître des éléments très intéressant attestant, au contraire, que les pays qui ont connu la croissance la plus rapide sont aussi ceux qui ont le moins fait appel à des capitaux étrangers (Prasad et al. (2007) ; Gourinchas et Jeanne, 2007). S'agissant d'établir clairement une relation entre l'ouverture financière et la croissance, la difficulté réside en partie dans le fait que l'ouverture des marchés financiers interagit avec le contexte réglementaire d'un pays donné. Un environnement favorable à l'entreprise, avec une gouvernance efficace, des relations de travail productives et une réglementation du travail prévisible sont autant d'éléments qui aident les investisseurs étrangers à identifier rapidement les possibilités commerciales et à canaliser les fonds vers l'utilisation la plus productive (Mishkin, 2006).

L'importance du développement des marchés financiers et des institutions ainsi que les fonctions qui leurs permettent d'influencer les décisions d'épargne et d'investissement et donc la croissance sont discutées par Demirgüç-Kunt et Levine (2008). En particulier, les intermédiaires financiers, que sont à la fois les banques d'un côté et les marchés financiers de l'autre, contribuent à réduire les coûts d'acquisition et de traitement des informations nécessaires à l'évaluation des projets d'investissements, améliorant ainsi l'allocation du capital. En outre, les intermédiaires financiers permettent le repérage des meilleures technologies de production, et sont donc susceptibles d'encourager les innovations technologiques, en identifiant les entrepreneurs qui représentent les meilleures opportunités de mettre sur les marchés de nouveaux produits et processus de production (King et Levine, 1993 ; Acemoglu et al. 2003). Les marchés financiers, qui assurent une fonction de liquidité des titres, incitent les agents à acquérir de l'information dont ils peuvent profiter. En effet, les marchés financiers liquides leur permettent d'échanger et profiter de l'information privée qu'ils ont acquise sans qu'ils aient à se dévoiler (Hölstrom et Tirole, 1993).

Le système financier exerce également une fonction de contrôle de la gouvernance des entreprises. Le rôle de cette dernière dans la croissance repose sur l'argument suivant : si les investisseurs, actionnaires ou créanciers, peuvent inciter que les dirigeants d'entreprises à maximiser la valeur de l'entreprise, cela améliorera l'efficacité de l'allocation des ressources et la disposition des épargnants à financer les entreprises et l'innovation. Ainsi, l'efficacité des mécanismes de gouvernance affecte directement les performances des entreprises avec des implications, certes diffuses, mais importantes pour la croissance économique.

Les systèmes financiers facilitent aussi la gestion et la diversification du risque en permettant aux épargnants de détenir des portefeuilles d'actifs diversifiés[2] . Cela permet à des agents averses au risque d'être prêt à investir dans des projets plus risqués, dont la rentabilité est plus forte. On peut donc en attendre un effet bénéfique sur la croissance à long terme.

Enfin, en permettant une meilleure allocation des ressources vers les entrepreneurs les plus efficaces, un contrôle et une surveillance des entrepreneurs et de leurs projets, le développement financier accroit l'accumulation du capital. Avec l'émergence des intermédiaires qui en résultent, le développement financier réduit les coûts de transactions par une baisse de l'asymétrie informationnelle, une meilleure gestion et couverture du risque ce qui influence positivement les investissements.

L'importance des intermédiaires financiers devrait également varier avec le type de flux de capitaux privés. En effet, même sil le développement financier et donc les intermédiaires financiers demeurent importants dans l'attractivité des investissements directs étrangers (IDE) et des dettes, leur contribution dans l'attractivité des investissements de portefeuille est de loin plus importante. Dans la mesure où leur attractivité nécessite de ce dernier un secteur financier très développé. Le développement financier en lui-même implique souvent l'entrée de nouvelles banques ou de nouveaux acteurs sur le marché local. Le processus de libéralisation financière avec des privatisations de banques implique ainsi des prises de participations sous forme d'IDE ou d'investissements de portefeuille et donc une hausse des capitaux privés étrangers. Les crédits bancaires et commerciaux peuvent ainsi augmenter avec l'entrée de nouvelles banques sur le marché local qui peuvent être des filiales de grandes banques étrangères ce qui faciliteraient les prêts entre les succursales et les entités mères.

Ces arguments montrent que le développement financier contribue à la croissance économique. En effet, un certain nombre de travaux empiriques ont tenté de vérifier s'il existait bien une relation entre finance et croissance, mais de manière forcément fruste par rapport à la richesse et à la diversité des fonctions de la finance. Ces travaux portent d'abord sur la causalité entre les deux au travers d'études temporelles dans un grand nombre de pays. Ainsi, King et Levine (1993) trouvent une relation significative entre la taille du secteur bancaire privé et la croissance économique dans 77 pays entre 1960 et 1989. Qui plus est, la taille du secteur bancaire en début de période est un bon prédicteur de la croissance économique ultérieure. Ainsi, la finance ne suit pas l'activité économique, elle la précède. Levine et Zervos (1998) ont alors étendu ce

[2] Cette diversification consiste en général à investir simultanément dans des secteurs différents faisant face à des chocs non corrélés. Levine (2005) souligne aussi la possibilité de diversification intertemporelle du risque.

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travail pour y inclure l'impact indépendant des marchés boursiers, ainsi que des banques, sur la croissance économique. Ils constatent que la liquidité du marché boursier et le développement du secteur bancaire sont indépendamment et positivement corrélés avec les taux courants et futur d'accumulation de capital et de croissance économique. De même, Beck et al. (2000) montrent un impact causal significativement positif du développement financier sur la croissance réelle par tête, et sur la croissance de la productivité réelle par tête. Les auteurs soutiennent l'idée qu'un meilleur fonctionnement des banques améliore l'allocation des ressources et accélère la croissance de la productivité, avec des répercussions positives sur la croissance économique de long terme.

Un autre volet de la littérature, qui intéresse notre étude, se concentre plus particulièrement sur l'efficacité allocative, c'est-à-dire la capacité des marchés financiers à allouer les ressources de manière à maximiser le bien-être procuré par leur utilisation. Un travail très représentatif testant la relation entre finance et croissance au niveau des secteurs industriels est celui de Rajan et Zingales (1998). Ils montrent que les industries dont les besoins de financement externe sont relativement plus élevés croissent de façon disproportionnellement plus rapide dans les pays dont les systèmes bancaires et les marchés boursiers sont plus développés[3] . Leurs constatations donnent à penser que le développement financier exerce un effet substantiel sur la croissance économique en réduisant le coût du financement externe pour les firmes financièrement dépendantes. Wurgler (2000), quant à lui, tente de montrer que les marchés financiers améliorent l'allocation du capital. Pour cela, il mesure l'élasticité des investissements à la valeur ajoutée dans les secteurs industriels d'un certain nombre de pays. Il en découle que cette élasticité est plus forte dans les pays financièrement plus développés, c'est-à-dire ceux dans lesquels la protection des investisseurs est bien assurée et les marchés financiers remplissent correctement leur rôle d'information[4] . Fisman et Love (2004) étendent les méthodes de Rajan et Zingales (1998) afin d'évaluer les conséquences du développement financier à court et à long terme pour la croissance des industries. Leurs résultats montrent qu'à court terme, le développement financier facilite la réallocation de ressources à toute industrie présentant un fort potentiel de croissance. A long terme cependant, les industries financièrement dépendantes sont davantage susceptibles de croître dans des pays qui disposent d'institutions financières bien développées. C'est-à-dire que les pays au développement financier élevé se spécialisent dans les industries financièrement dépendantes.

Les différents volets de la littérature étudiés dans cette section soulignent (i) le potentiel des effets des afflux de capitaux sur les économies bénéficiaires et (ii) l'importance du développement du système financier dans le processus de croissance économique en général et de son efficacité dans l'allocation des ressources en particulier. Ces constatations motivent l'argument principal de la présente étude, à savoir que l'effet des afflux de capitaux sur l'appréciation réelle du taux de change devrait être atténué en présence d'un système financier développé.

II. Flux De Capitaux Et Developpement Financier Dans Les Pays Du Maghreb : Un Etat Des Lieux

a) Les flux de capitaux

Du point de vue comptable, les flux de capitaux sont constitués de la dette, des investissements de portefeuille, des investissements directs et de placements immobiliers et sont enregistrés au compte de capital et d'opérations financières de la balance des paiements. Les sorties coïncident aux achats d'avoirs extérieurs par les résidents, qui remboursent en outre leurs emprunts à l'étranger. Les entrées s'effectuent par des étrangers qui investissent directement ou indirectement sur les marchés financiers du pays d'accueil, y procurent des propriétés immobilières, ou octroient des prêts aux résidents de ce pays.

Les flux des investissements étrangers dans les pays du Maghreb sont basés essentiellement sur les investissements directs étrangers (IDE). Les flux d'investissement en portefeuille (IPF) sont négligeables comme le montrent le tableau1.

[3] De même, Claessens et Laeven (2005) montrent que ces industries bénéficient de plus d'un système bancaire concurrentiel.

[4] Ce que l'auteur mesure par la synchronie des évolutions boursières. Si les cours boursiers des entreprises sur un marché sont fortement corrélés, on considérera que leur contenu en information (donc leur capacité à orienter l'allocation du capital) est faible.

Tableau 1 : Evolution des montants des flux d'investissements étrangers vers les pays du Maghreb (en millions d'US$) : 2004-2008

	Tunisie		Maroc		Algérie	
	IDE	IPF	IDE	IPF	IDE	IPF
2004	639	12.84	895	0.2	882	n.d
2005	782	3.85	1653	0.01	1081	n.d
2006	3312	2.4	2450	0.01	1795	n.d
2007	1662	4.21	2803	0.22	1662	n.d
2008	2646	5.19	2487	11.8	2646	n.d

Source : CNUCED, FMI – IFS.

i. *Matrice des flux d'investissement dans la région*

La matrice (entrée et sortie) des principaux flux d'IDE à l'intérieur des pays du Maghreb entre 2003 et 2008 montre que ces flux sont négligeables et presque inexistants (tableau 2) et que le Maroc qui attire relativement le plus des IDE des autres pays de la région. Cette faiblesse des flux intra région du Maghreb est due essentiellement aux restrictions institutionnelles qui empêchent la mobilité des capitaux. On constate que la Tunisie n'a investi qu'en Algérie.

Tableau 2 : Matrice des principaux flux d'IDE estimés vers les pays du Maghreb entre 2003-2008 en millions d'euros

Origine	Destination En mln €	Algérie	Maroc	Tunisie
Europe	Allemagne	215	450	68
	Autriche		0	108
	Belgique	15	1269	2
	Danemark	8	60	0
	Espagne	1015	3796	456
	Finlande		0	0
	France	1972	5302	534
	Grèce		41	
	Italie	187	472	727
	Pays-Bas	114	44	110
	Roy.-Uni	281	213	1340
	Suède	0	4	266
	Suisse	192	465	0
	Autr.Eur.	1654	337	114
Amérique	Canada	238	66	154
	Etats-Unis	1355	965	261
MEDA-10	Egypte	5160	82	1
	Jordanie	35		
	Liban	99		
	Tunisie	59	0	
	Turquie	12	39	0
	Autr.Med-10	26	0	50
Golf	A. Saoud.	736	439	80
	Bahreïn	143	592	132
	EAU	1939	2110	4795
	Koweït	2081	730	296
	Qatar		54	403
	Autr.MENA	298	217	0
Asie Océanie	Australie	181	0	7
	Chine	578	0	52
	Inde	16	81	110
	Japon	14	92	72
	Malaisie	31	2	
	Singapour	145	0	
	Autr. Asie	19	96	31
	Afr.Sud			0

Autres	Azerbaïdjan			
	Brésil	1	475	
	Russie	0	102	
	Autr.pays	13	84	0
	Total	18 832	18890	10169

Source : ANIMA (2010).

Avec 100 projets d'IDE détectés en 2008, la destination Tunisie est montée en gamme en 2008. En effet, malgré la dégradation de la conjoncture économique internationale, l'économie tunisienne a tenu bon. Poussée par les exportations, la sous-traitance et le tourisme, la croissance économique, loin de s'essouffler, est restée au dessus de la barre des 5% en 2008.

Selon la FIPA (Agence de Promotion des Investissements de la Tunisie), la Tunisie a reçu l'équivalent de 2.3 milliards de dollars en 2008, soit une augmentation de 54% par rapport à 2007. En nombre de projets : l'observatoire ANIMA-MIPO constate de son côté une hausse de 56% par rapport à 2007, avec 100 projets détectés en 2008, contre 64 en 2007.

Avec 62 projets d'IDE, les Européens restent, de loin, les premiers investisseurs en Tunisie, loin devant les entreprises du Golf (15 projets). Les Européens sont les plus présents dans le textile (7 projets dont 3 projets de l'italien Benetton qui crée une plate-forme de finissage à Kasserine et ouvre plusieurs nouvelles usines). D'après l'observatoire ANIMA, les Français sont les premiers investisseurs dans l'informatique et les services aux entreprises (15 projets au total). Dans les assurances, il faut noter l'acquisition de 35% de la STAR par le français Groupama pour 72 millions d'euros. C'est le secteur de l'énergie qui a reçu le plus grand nombre de projets d'IDE en 2008, avec 21 projets (représentants 2.3 milliards d'euros de montants bruts annoncés) contre seulement 6 projets en 2007.

La bonne campagne agricole permet à la croissance économique au Maroc de rebondir à 6.2% en 2008 selon le FMI (2.7% en 2007). La réduction de la facture énergétique arrive à point nommé pour l'économie marocaine, dont les exportations commencent à décrocher, à commencer par l'industrie du textile/habillement.

Seulement 95 projets d'IDE ont été détectés pour le Maroc en 2008, en baisse de 36% par rapport à 2007. Cet affaissement se ressent au niveau des montants investis. Ainsi, selon l'observatoire ANIMA, 1.5 milliards d'euros ont été injecté dans l'économie marocaine en 2008 contre 2.7 milliards en 2007.

Comme en Tunisie, les cours élevés du baril de pétrole ont poussé de nombreux opérateurs étrangers à venir tenter leurs chances dans le désert marocain. 8 nouvelles licences d'exploitation pétrolière ont ainsi été délivrées en 2008. Mais, c'est dans le domaine des énergies propres que les investisseurs seront les plus attendus à partir de 2009. En effet, pour réduire la dépendance vis-à-vis de l'extérieur, le gouvernement marocain a décidé d'agir (le pays importe plus de 90% de ses besoins énergétiques). D'ici 2012, 20% de la production électrique nationale devra provenir de sources d'énergies alternatives, à commencer par le solaire et l'éolien.

Selon les chiffres de l'Agence Nationale pour le Développement des Investissements (ANDI), l'Algérie a attiré 102 projets d'IDE en 2008, qui ont permis la création de 10 723 emplois directs. Les montants investis sont conséquents : 6.2 milliards d'euros de montants bruts annoncés, selon l'observatoire ANIMA.

Contrairement à ce qui est observé pour d'autres pays Med, les investisseurs du Golf consolident leurs positions en Algérie. En 2008, 15 projets d'IDE représentant 4.9 milliards d'euros bruts arrivent du Golf (contre 13 projets d'IDE en 2007).

Signe inquiétant pour l'économie algérienne, les IDE en provenance d'Europe chutent de 50% par rapport à 2007, tant en flux qu'en nombre de projets, depuis 2003. Ainsi, en 2008, ANIMA a détecté 29 projets d'IDE européens pesant 907 millions d'euros en montants bruts, contre 60 projets d'IDE valant 1.8 milliards d'euros en 2007. Ce coup de froid sur les investissements européens peut s'expliquer par un certain flou sur les nouvelles conditions légales en matière d'investissement pour les groupes étrangers en Algérie.

Selon l'observatoire ANIMA, les flux d'IDE vers l'Algérie en provenance des autre pays Med s'effondrent en 2008, tombant à seulement 169 millions d'euros, contre 2.3 milliards d'euros en 2007.

ii. *L'évolution des IDE des grandes régions du monde*

L'examen sur le long terme des flux d'IDE au niveau mondial révèle une part négligeable des pays de la méditerranée du Sud. En effet, force est de constater que face à la concurrence internationale en matière de flux de financement, les investissements étrangers restent contraint par la lenteur de certaines réformes attendues, et surtout celles touchant la convertibilité du compte de capital. En 2008, comme nous pouvons facilement le voir en consultant les données du tableau ci-dessous, il semble que 1,36 % des flux mondiaux se sont orientés vers cette région, soit moins que l'Afrique subsaharienne qui en a accueilli environ 2.35% (tableau 3).

Tableau 3 : Flux d'IDE entrants par région (en millions de $ US)

	2000	2005	2008
Pays de la rive Sud de la méditerranée[5]	3408	12236	24097 (1.36%)
Afrique subsaharienne[6]	5925	21619	41675 (2.35%)
Economies en transition	7025	31100	122588 (6.92%)
Economies en développement	256465	330130	630012 (35.57%)
Economies développées	1137976	624565	1018273 (57.5%)
Monde	1401466	985795	1770873 (100%)

Source : CNUCED

En dépit de ce constat, il semble manifeste que les dernières années ont été marquées par une évolution notable en la matière : croissance des flux d'IDE, dispersion de l'origine des flux et diversification sectorielle relative.

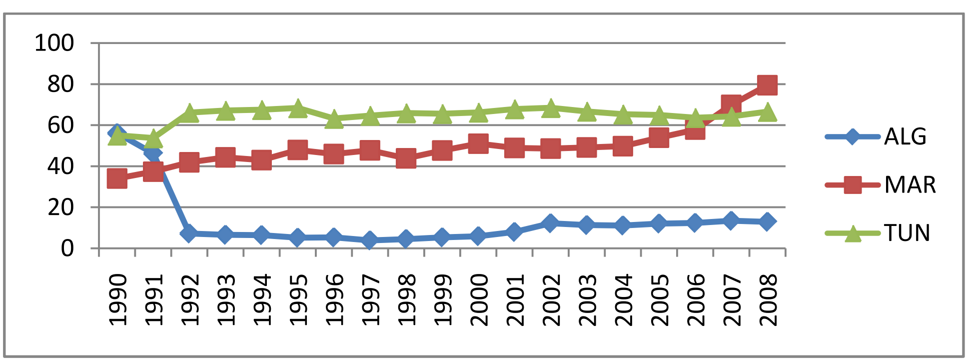
Tableau 4 : Hiérarchie des principaux revenus extérieurs de la région en millions de $ US

	IDE 2008 CNUCED	Revenus du tourisme 2008 Banque Mondiale	Transferts des migrants 2008 CNUCED	Aide publique au développement 2008 Banque Mondiale
Algérie	2646	325	2202	316
Maroc	2487	8885	6895	1217
Tunisie	2758	3909	1977	479

b) Le développement financier

Les gouvernements des pays du Maghreb ont lancé durant la dernière décennie des programmes de mise à niveau et de restructuration de leurs systèmes financiers visant à créer les conditions idéales à l'essor et au développement de leurs banques et marchés financiers pour une participation plus active et un rôle plus important dans l'économie. A cet égard, il existe des différences significatives entre les niveaux de développement financier des pays de la région comme le montre le graphique suivant :

Graphique 1 : Développement financier au pays du Maghreb, 1990-2008



Source : World Development Indicators, 2010.

[5] Ce groupe englobe l'Algérie, l'Egypte, la Libye, le Maroc, le Soudan et la Tunisie.
[6] Sans l'Afrique du Sud.

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Le graphique montre que l'état du développement financier, mesuré par le ratio des crédits privés par rapport au PIB, est variable entre les pays du Maghreb durant la période 1990-2008. A ce titre, le Maroc dépasse les pays de la région avec un ratio de 79.5% du PIB pendant l'année 2008, alors que cette part ne correspondait qu'à 13% du PIB pour l'Algérie et 66.6% du PIB pour la Tunisie durant la même année. Ce résultat pourrait trouver son explication dans la nature des systèmes financiers qui sont encore à caractère très bancaire avec une forte présence des banques publiques.

En Algérie, par exemple l'activité économique s'appuie encore lourdement sur l'Etat. Le système bancaire est dominant avec 6 banques publiques et qui représentent 90 % des actifs bancaires et le reste est détenu par 15 banques privées. Les institutions financières non bancaires restent encore marginales et le marché boursier est encore embryonnaire avec uniquement 3 entreprises à la côte et un échange très faible.

Le système financier marocain est beaucoup plus large et diversifié que les trois précédents. Cependant, il reste encore majoritairement bancaire et qui représentent 60% du total des actifs du système financier. Le total actif du secteur, qui totalise 16 banques dont 11 privés et 5 étrangères, atteint 109% du PIB en 2007, dont 85% d'actifs pour les six premières banques qui dominent le marché. 50% de leurs bilans sont constitués de prêts à long terme, financés principalement par des dépôts à court terme (82 pour cent de dettes), surtout non rémunérés. Certaines banques ont poursuivi ces dernières années leur déploiement à l'étranger notamment en Europe, au Maghreb et en Afrique subsaharienne avec l'objectif de jouer un rôle actif en Afrique, tout en accompagnant le développement à l'international de l'activité de leur clientèle.

Du coté du marché boursier, il convient de relever qu'outre sa modernisation, ce dernier a vu un accroissement significatif de sa capitalisation au cours des dernières années, passant à 98% du PIB en 2007 contre 24.5% en 2001. Dans la même lignée, il faut noter le développement continu de l'épargne institutionnelle des compagnies d'assurances, de retraites et des fonds mutuels dont les actifs représentent 60% du PIB en 2007 contre seulement 49% en 2004.

Le système financier Tunisien est aussi diversifié avec un total actifs représentant 90 % du PIB. Le système bancaire comprend 20 banques commerciales dont 5 banques de développement. Toutefois, ces dernières ont été converties récemment en banques universelles. Cependant, le marché boursier tunisien reste relativement restreint avec notamment un manque de liquidité malgré les efforts du gouvernement de dynamiser ce secteur.

Toutefois, l'état de santé de ces systèmes bancaires est variable d'un pays à un autre. La qualité des actifs du système bancaire marocain est substantiellement renforcée en ligne avec l'amélioration de la couverture des créances douteuses suite à la mise en place d'un nouveau cadre réglementaire plus strict. Le ratio des créances en souffrances, provisionnées à hauteur de 75% a été ramené à une moyenne de 7.7% du portefeuille de crédits des banques en 2007. Cependant, malgré cette nette décélération du portefeuille des créances douteuses, leur niveau demeure supérieur à ce qui est observé au niveau des pays émergents ou à niveau de développement similaires, et surtout par rapport à la zone Euro où le taux de défaut se situe aux alentours de 3% en situation conjoncturelle normale. Concernant l'Algérie, la situation bancaire reste encore préoccupante avec un taux de 35 %.

Le ratio de capital des banques marocaines, selon le standard Bâle 2, atteint 10.5% au titre 2008 et est réglementairement fixé à 10% au minimum et pourrait atteindre 12% pour les banques présentant une structure de risque particulière.

Cependant, la rentabilité du secteur au Maroc, le rendement des fonds propres (return on equity) des banques marocaines prises globalement a atteint 20.6% en 2007 et serait du même ordre au titre de l'année 2008. En Algérie, le système bancaire qui est à 90% public, ne pose pas de risques macroéconomiques, il demeure capitalisé et rentable, la rentabilité de leurs fonds propres a atteint 25% en 2007 (8% en 2005) contre 9% pour la Tunisie. Pour toute la région Maghreb, le rendement moyen des fonds propres est de 23%. Le ROE suit cette évolution rapide et enregistre des performances intéressantes pour le Maroc 32% en 2007, 28% pour l'Algérie et 10% pour la Tunisie, FMI (2009).

Parallèlement à leur rentabilité élevée, les banques marocaines sont devenues relativement efficientes, avec un coefficient d'exploitation de 48% en 2006. Cet indicateur de compétitivité se compare favorablement par rapport au système bancaire des pays de la Zone Euro (62% en France, 60% en Italie et 55% en Espagne).

En Tunisie, la situation des banques s'est aussi améliorée de façon notable et est caractérisée aujourd'hui par a) une hausse de l'activité bancaire et de la profitabilité, b) une baisse des créances classées de 19.3% en 2006 à 17.3% en 2007 qui s'explique essentiellement par un traitement dynamique de ces créances, c) une augmentation du taux de provisionnement à environ 53.8%. Les deux objectifs des autorités pour 2009, à savoir réduire le taux de créances classées à 15% et porter leur taux de provisionnement à 70% paraissent ainsi réalisables. Atteindre rapidement ces objectifs, et même aller au-delà, renforcerait davantage la capacité du système bancaire à absorber les chocs potentiels pouvant affecter l'économie, compte tenu notamment de l'ouverture progressive du compte de capital.

Ainsi, il s'avère, que les systèmes financiers dans ces pays sont encore à dominante bancaire et encore marqués par une prédominance des banques publiques qui n'ont pas les capacités de gestion des risques de base et sont alourdies par des prêts improductifs. La domination des banques publiques a également permis à ces économies d'exercer un contrôle direct ou indirect sur l'expansion du crédit. Le fait que les gouvernements tiennent les marchés financiers, explique que la transparence ne soit assurée, ce qui fait fuir les capitaux étrangers.

La réforme du secteur financier dans les pays du Maghreb est une condition nécessaire pour qu'il soit possible d'attirer les capitaux, mais cela ne suffit pas en soi. Il faut miser en complément sur un cadre macroéconomique sain, sur un cadre juridique solide et efficace, sur des marchés de biens et de facteurs fonctionnels ainsi que sur une plus grande coopération à l'échelle régionale et mondiale.

III. Afflux De Capitaux, Taux De Change Reel Et Developpement Financier : Une Evidence Empirique

L'objectif de cette section est de montrer l'effet des afflux de capitaux sur le taux de change réel étant donné le niveau de développement du système financier dans les pays du Maghreb. Nous présentons successivement, le modèle et les variables, la méthode économétrique et les résultats des diverses estimations qui dans l'ensemble corroborent les hypothèses théoriques.

a) Spécification générale du modèle et définition des variables

Notre étude exploite un échantillon de 3 pays du Maghreb (Tunisie, Maroc et Algérie) pendant la période s'étalant de 1980 à 2008. Le choix de l'échantillon et de la période a été dicté principalement par la disponibilité des données.

Dans la même lignée de l'étude de Saborowski (2009), le modèle est spécifié dans l'équation (1) :

$$TCR_{it} = \alpha_1 FK_{it} + \alpha_2 (I_{it} * FK_{it}) + \alpha_3 Z_{it} + \eta_i + \varepsilon_{it}\,,\quad i = 1,\ldots,3\;;\; t = 1,\ldots 29 \tag{1}$$

où TCR est le taux de change effectif réel coté au certain[7] , FK est la variable afflux de capitaux, I représente l'indicateur du développement financier, I*FK est la variable d'interaction entre l'indicateur du développement financier et l'afflux de capitaux, Z est la matrice des variables de contrôle, η_i , $\varepsilon_{i,t}$, représentent respectivement les effets spécifiques individuels et le terme d'erreur.

Dans les analyses théoriques axées sur les pays en voie de développement, le taux de change réel est souvent défini, dans une optique de production, comme le prix relatif des biens non échangeables par rapport aux biens échangeables : $TCR = \frac{P_N}{P_T}$, où P_T et P_N représentent respectivement le prix des biens échangeables et celui des biens non échangeables. Ainsi, une hausse du taux de change réel désigne une perte de profitabilité du secteur des biens échangeables, et une baisse, une amélioration de la compétitivité extérieure de l'économie.

Un taux de change effectif réel est plus adapté à notre analyse pour plusieurs raisons. La notion du taux de change réel d'équilibre repose en partie sur l'équilibre externe de l'économie qui est nécessairement évalué en référence au reste du monde. Le taux de change effectif réel offre également une indication de l'évolution de la compétitivité d'un pays par rapport à ses partenaires commerciaux.

Les afflux de capitaux sont approximés par les entrées nettes d'investissements directs étrangers en pourcentage du PIB (IDE). L'entrée des capitaux étrangers est susceptible d'exercer une influence sur le taux de change réel dans la mesure où elle suscite, généralement, un accroissement des dépenses allouées aux biens non échangeables. Ce qui a tendance à créer une pression sur les prix de ces biens et d'engendrer, ainsi, une appréciation du taux de change réel.

Plusieurs indicateurs de développement financier ont été utilisés dans les analyses empiriques. Les deux indicateurs les plus utilisés, car disponibles pour de nombreux pays en développement sur une longue période de temps, sont le rapport au PIB, soit des actifs liquides, soit des crédits accordés par les intermédiaires financiers (hors banque centrale et agences gouvernementales) au secteur privé. Nous utilisons alternativement ces deux variables dans l'estimation de notre modèle[8] .

Ces deux variables financières sont définies de la façon suivante :

- CREDIT : est le montant des crédits distribués par les intermédiaires financiers au secteur privé rapportés au PIB. Cet indicateur financier mesure le

[7] Une augmentation de taux de change correspond à une appréciation de la monnaie nationale, alors qu'une baisse reflète une dépréciation.

[8] Ces deux indicateurs sont utilisés par Levine et al. (2000).

degré d'intermédiation de l'économie. En excluant le secteur public, cet indicateur illustre la manière dont les fonds sont canalisés vers les investissements privés. L'idée derrière cette mesure est que les systèmes financiers qui accordent plus de crédit au secteur privé évaluant mieux les prospectives futures des entrepreneurs, en exerçant le contrôle des entreprises et en assurant la diversification et la gestion des risques (Levine, 2005).

- LIQ : est le rapport du passif liquide de l'économie au PIB. Cet indicateur prend en compte la masse monétaire (M2) et le passif liquide des institutions financières. Le passif liquide est une mesure de la « profondeur financière » et de la taille globale du système financier.

Selon l'hypothèse principale de cette étude – un haut niveau de développement financier atténue l'effet de l'afflux de capitaux sur l'appréciation du taux de change réel – on s'attend, en effet, à ce que le coefficient relatif à la variable d'interaction entre l'afflux de capitaux et l'indicateur de développement financier devrait être négatif.

Le concept de taux de change réel d'équilibre le plus utilisé dans la littérature est celui qui est basé sur l'approche comportementale. Cette dernière insiste sur les déterminants macroéconomiques de long terme du taux de change réel (Froot et Rogoff, 1994 ; Edwards et Savastano, 1999 ; Baffes et al. 1999). Il s'agit essentiellement de :

- Les termes de l'échange : théoriquement, l'évolution du taux de change réel consécutive à une variation des termes de l'échange est indéterminée. D'un côté l'augmentation des termes de l'échange se traduit par une hausse du revenu national (en termes de biens importés) et donc des dépenses, ce qui conduit à une appréciation réelle. De l'autre, cette augmentation va générer des effets de substitution (hausse de l'offre d'exportables, réduction de la demande d'importables) qui entraîneront une dépréciation réelle. Baffes et al. (1999) notent que l'analyse empirique révèle une supériorité des effets de dépenses. Les termes de l'échange sont égaux au rapport entre les prix à l'exportation (indice de valeur unitaire) et les prix à l'importation (indice de valeur unitaire) du pays considéré. Ils sont notés TE.

- La productivité relative : elle est destinée à capter l'effet Balassa-Samuelson. Cet effet permet d'expliquer les différences d'évolution des taux de change réels par les différences de productivité relatives entre secteurs exposés ou non et entre les économies. En phase d'expansion ou de rattrapage, les variations de productivité dans les économies émergentes sont généralement plus rapides dans le secteur exposé (secteur des biens échangeables), avec notamment des transferts de technologies plus rapides, une adaptation plus grande aux standards internationaux et de plus grands efforts de productivité dans les secteurs ouverts à la concurrence internationale. Ceci a tendance à réduire le prix relatif des biens échangeables dans l'économie par rapport aux biens non-échangeables et ainsi apprécier le taux de change réel. Le revenu par tête est utilisé comme proxy pour mesurer l'effet Balassa-Samuelson (cf. Balassa, 1964). Il est noté PROD.

- L'ouverture commerciale : une hausse de l'ouverture commerciale résultant d'une libéralisation commerciale déprécie vraisemblablement le taux de change réel (voir Edwards, 1997 ; El Badawi et Soto, 1997). En effet, une réduction de tarif déplace la demande des biens non échangeables vers les biens importables et la production des importables vers les non échangeables et les exportables dépréciant ainsi le taux de change réel d'équilibre. Le taux d'ouverture est calculé comme suit : (valeur des exportations plus valeur des importations) rapporté au PIB en valeur. Elle est notée OUV.

- Les dépenses publiques : une augmentation des dépenses publiques es associée à un choc d'offre négatif. L'effet de cette augmentation sur le taux de change réel d'équilibre dépend en fait de la répartition des dépenses publiques entre biens échangeables et biens non échangeables. Ainsi, une hausse des dépenses publiques en biens non échangeables es associée à une appréciation du taux de change réel d'équilibre, soi une détérioration compétitive du pays, alors qu'une augmentation des dépenses publiques en biens échangeables provoque une dépréciation réelle du change. Elles sont notées DPUB.

Le taux de change effectif réel, le PIB réel par tête et les termes de l'échange sont exprimés en logarithme. Les entées nettes de capitaux, les indicateurs de développement financier, l'ouverture commerciale et les dépenses publiques sont exprimés en pourcentage du PIB. Les données sont extraites de la base de données de la Banque Mondiale (WDI, 2010).

b) Méthodologie économétrique

Notre méthodologie repose sur l'utilisation des techniques de l'économétrie des données de panels non stationnaires. La non stationnarité des variables macroéconomiques justifie, en partie, le recours à ces techniques. Ces approches exploitent les relations de cointégration entre les variables dépendante et indépendantes pour accroître l'efficacité dans l'estimation des paramètres. En effet, les estimations de long terme par ces techniques sont plus efficaces que celles obtenues en coupes transversales ou en séries temporelles. Cela est d'autant vrai que la dimension temporelle des séries macroéconomiques est en général limitée (Pedroni, 1996 ; Froot et Rogoff, 1994 ; Chin et Johnston, 1996), particulièrement dans les pays en développement. Les approches de panel non stationnaires comprennent des méthodes semiparamétriques comme les moindres carrés ordinaires modifiés (Fully Modified Ordinary Least Squares, FMOLS) de Pedroni (2000) et des méthodes paramétriques telles que les moindres carrés ordinaires dynamiques (Dynamic Ordinary Least Squares, DOLS) de Kao et Chiang (1999) et Mark et Sul (2003).

L'analyse économétrique se décompose en trois étapes : la première consiste à vérifier le degré d'intégration des variables utilisées, ensuite, on recherche l'existence d'un vecteur de cointégration et enfin, on estime ce vecteur. Cette dernière étape permettra de conclure sur la nature du lien qui unit le taux de change effectif réel, les afflux de capitaux et le développement financier.

i. *Tests de stationnarité des variables*

Une étape préliminaire à l'estimation consiste à tester l'ordre d'intégration de nos séries. Le test le plus fréquemment utilisé, lorsque la dimension temporelle est limitée, est celui de Im, Pesaran et Shin (2003) (IPS par la suite). IPS ont introduit un test, nommé t-bar, basé sur la moyenne des statistiques de Dickey-Fuller (ou Dickey-Fuller Agmenté) calculées pour chaque individu du panel. IPS proposent de tester l'hypothèse nulle $\rho_i = 0 \quad \forall i$, contre l'hypothèse alternative : $\rho_i \prec 0$ pour $i = 1, 2, .., N_1$ et $\rho_i = 0$ pour $i = N_1 + 1, N_1 + 2, ..., N$. On constate que, sous l'hypothèse alternative, la valeur de ρ_i peut différer entre les individus.

Plus spécifiquement, la statistique t-bar repose sur une régression de type ADF :

$$\Delta y_{it} = \rho_i . y_{i,t-1} + \sum_{j=1}^{p_i} \beta_{ij} . \Delta y_{i,t-j} + \alpha_i + \varepsilon_{i,t} \qquad (2)$$

avec p_i le nombre de retard choisi de façon à éliminer l'autocorrélation des résidus.

La statistique alternative t-bar permettant de tester l'hypothèse nulle de racine unitaire pour tous les individus ($\rho_i = 0$) est la suivante :

$$\bar{t}_{NT} = \frac{1}{N} \sum_{i=1}^{N} t_{iT}(p_i, \beta_i) \qquad (3)$$

où $t_{iT}(p_i, \beta_i)$ correspond à la statistique individuelle de Student associée à l'hypothèse nulle ($\rho_i = 0$) dans le modèle (2) pour un nombre de retard p_i et un vecteur de paramètres ADF $\beta_i = (\beta_{i,1}, ..., \beta_{i,p_i})$. Il s'agit de la statistique ADF standard obtenue à partir d'un modèle avec constante et qui est programmée dans la plupart des logiciels usuels pour un retard p_i donné.

A partir des N statistiques ADF individuelles $t_{iT}(p_i, \beta_i)$, IPS proposent d'utiliser la statistique standardisée $Z_{tbar}(p, \beta)$ centrée sur l'espérance de la distribution asymptotique η de la statistique individuelle ADF et réduite par la variance de cette même distribution :

$$Z_{tbar}(p, \beta) = (N)^{1/2} (\bar{t}_{NT} - E(\eta) / (\text{var}(\eta))^{1/2} \qquad (4)$$

où les moments $E(\eta)$ et $\text{var}(\eta)$ correspondent à l'espérance et à la variance asymptotique (quand $T \to \infty$) d'une statistique ADF sous l'hypothèse nulle de racine unitaire ($\rho_i = 0$) dans un modèle avec constante.

L'étude d'IPS montre que cette statistique standardisée converge faiblement vers la distribution normale centrée réduite, ce qui permet de la comparer aux valeurs critiques de la distribution N (0,1). Les résultats du test IPS sont présentés dans le tableau 5.

Tableau 5 : Les résultats du test IPS (2003)

	Variables en niveau		Variables en différence 1ère	
	Avec constante	Const. + tendance	Avec constante	Const. + tendance
TCR	-0.32	-0.04	-2.64***	-1.46***
IDE	0.52	-0.72	-11.81***	-8.6***
CREDIT	0.099	-0.51	-4.56***	-3.56***
IDE*CREDIT	-0.84	-0.93	-7.72***	-6.63***
LIQ	3.01	0.96	-3.03***	-2.37***
IDE*LIQ	1.33	-0.22	-6.88***	-6.64***
PROD	4.6	2.2	-3.52***	-3.95***
TE	-1.26	0.19	-4.97***	-4.09***
OUV	3.5	-0.49	-4.09***	-4.05***
DPUB	-0.42	-0.02	-5.05***	-5.36***

*Notes : Données en panel stationnaire à *10 %, ** 5 %, *** 1 %.*

ii. *Tests de cointégration*

Pour étudier l'existence d'une relation de cointégration, on s'est référé aux travaux de Pedroni (1999, 2004). Tout comme les tests IPS (2003), les tests de Pedroni prennent en compte l'hétérogénéité par le biais de paramètres qui peuvent différer entre les individus. Une telle hétérogénéité peut se situer à la fois au niveau des relations de cointégration et au niveau de la dynamique de court terme. Ainsi, sous l'hypothèse alternative, il existe une relation de cointégration pour chaque individu du panel. La prise en compte d'une telle hétérogénéité constitue un avantage puisqu'en pratique, il est rare que les vecteurs de cointégration soient identiques d'un individu à l'autre du panel. La mise en ouvre des tests nécessite au préalable d'estimer la relation de long terme suivante :

$$y_{it} = \alpha_i + \delta_i t + \beta_{1i} x_{1,it} + \beta_{2i} x_{2,it} + \ldots + \beta_{Mi} x_{M,it} + \varepsilon_{it} \qquad (5)$$

avec $i = 1,\ldots,N$ désigne l'individu, $t = 1,\ldots,T$ et $m = 1,\ldots,M$.

Sur les sept tests proposés par Pedroni, quatre sont fondés sur une dimension *within* ou intra-individuelle et trois sur la dimension *Between* ou inter-individuelle. Les deux catégories de tests reposent sur l'hypothèse nulle d'absence de cointégration : $\rho_i = 1$ $\forall i$, ρ_i , désigne le terme autorégressif des résidus estimés sous l'hypothèse alternative tels que :

$$\hat{\varepsilon}_{it} = \rho_i \hat{\varepsilon}_{it-1} + \mu_{it} \qquad (6)$$

La distinction entre les deux catégories de tests se situe au niveau de la spécification de l'hypothèse alternative :

- pour les tests fondés sur la dimension *within*, l'hypothèse alternative s'écrit : $\rho_i = \rho \prec 1 \; \forall i$,
- pour les tests fondés sur la dimension *Between*, l'hypothèse alternative s'écrit : $\rho_i \prec 1 \; \forall i$.

Nous constatons ainsi que le test fondé sur la dimension Between est plus général au sens où il autorise la présence d'hétérogénéité entre les individus sous l'hypothèse alternative.

Pedroni (1996) a montré que, sous des normalisations appropriées basées sur des fonctions de mouvements browniens, chacune des sept statistiques suit une loi normale centrée réduite pour T et N suffisamment importants :

$$\frac{Z_{NT} - \mu\sqrt{N}}{\sqrt{\upsilon}} \rightarrow N(0,1) \qquad (7)$$

où Z_{NT} désigne une des sept statistiques normalisées, les valeurs de μ et υ sont tabulées dans Pedroni (1999) et représentent respectivement la moyenne et la variance ajustées. A partir de ces valeurs, il est alors possible de calculer les valeurs critiques relatives à chacun des sept tests (voir Pedroni, 1999, tableau 2).

En termes de puissance, Pedroni (1999, 2004) montre pour des valeurs de T supérieures à 100, ces statistiques se comportent relativement bien et ne soufrent pas de distorsion de seuil. Cependant, pour des échantillons de plus petites tailles (T inférieur à 20) la statistique « ADF-stat » du modèle *between* est la plus puissante. C'est cette statistique que nous allons utiliser pour tester la relation de cointégration.

Il est important de noter que l'hypothèse nulle testée est l'absence de relation de cointégration entre les variables. Par conséquent, au seuil considéré, une statistique calculée plus petite que la valeur critique tabulée (-1.65 au seuil de 5 %) conduira au rejet de l'hypothèse nulle d'absence de cointégration.

Le tableau 6 présente les résultats des tests pour diverses spécifications. Dans la première spécification (1), nous introduisons la variable CREDIT comme indicateur du développement financier. En revanche, dans la deuxième spécification (2) la variable LIQ est retenue comme indicateur du développement financier.

Tableau 6 : Tests de cointégration (Pedroni, 1999)

	Spécification (1)	Spécification (2)
Between ADF-stat	-3.67**	-1.99**

*Notes : Variable dépendante : taux de change effectif réel. ** rejet de l'hypothèse nulle de la non cointégration à un niveau de 5 %.*

Comparée à la valeur critique (-1.65) au seuil de 5 %, la valeur calculée de la statistique « ADF-stat » du modèle *between* indique clairement l'existence d'une relation de cointégration entre le taux de change réel et ses fondamentaux. Nous passons maintenant à l'estimation de cette relation.

iii. *Relation de cointégration*

Nous avons choisi la méthode FMOLS qui comme le DOLS qui est une technique d'estimation de cointégration sur données de panel. Les FMOLS permettent de prendre en compte l'hétérogénéité dans la relation de cointégration. Dufrenot et Yehoue (2005) constatent que l'hypothèse de vecteurs cointégrants homogènes conduit à des estimations biaisées et les résultats sont souvent contre-intuitifs. L'estimateur FMOLS, étudié notamment par Pedroni (1996), permet de tenir compte des problèmes d'endogénéité du second ordre des régresseurs (engendrée par la corrélation entre le résidu de cointégration et les innovations des variables I(1) présentes dans la relation de cointégration) et des propriétés d'autocorrélation et d'hétéroscédasticité des résidus. Finalement, Pedroni montre que le FMOLS est un estimateur asymptotiquement sans biais et distribué suivant une loi normale standard libre de toute corrélation sérielle et de tout effet de feedback endogène indiosyncratiques. Les résultats de l'estimation par la méthode FMOLS sont présentés dans le tableau 7.

Tableau 7 : Estimation de la relation de cointégration pour les pays du Maghreb

	Spécification (1)	Spécification (2)
IDE	0.092*** (1.89)	0.4** (1.97)
CREDIT	0.007* (7.09)	-
IDE*CREDIT	-0.031** (-2.14)	-
LIQ	-	0.008* (7.37)
IDE*LIQ	-	-0.12** (-2.34)
PROD	0.311** (2.69)	0.96* (5.27)
TE	0.37* (3.86)	0.282* (4.76)
OUV	-0.013* (-5.86)	-0.007* (-6.16)
DPUB	0.016* (4.19)	0.024* (7.88)

*Notes : Variable dépendante : taux de change effectif réel. *, ** et *** sont les significativités respectivement à 10%, 5% et 1%. Entre parenthèses se trouvent les statistiques t distribuées selon une loi normale centrée et réduite.*

Le tableau 7 montre que les coefficients estimés des variables ont le signe attendu et sont statistiquement significatives. Dans les deux spécifications, le coefficient de cointégration relatif aux IDE confirme les prédictions théoriques. Le coefficient estimé est positif et statistiquement significatif impliquant que l'accroissement des flux de capitaux entraîne une hausse des dépenses intérieures et une réallocation des facteurs de production vers le secteur des biens non échangeables. La hausse à long terme de la demande des biens non échangeables entraîne une appréciation du taux de change réel. En effet, une hausse de 1 % des entrées nettes d'IDE entraîne une appréciation du taux de change réel de 0.092 % selon la spécification (1) et de 0.4 % selon la spécification (2)[9].

Les résultats confirment également qu'une amélioration des termes de l'échange conduit à une appréciation réelle du taux de change, ce qui signifie que l'effet de richesse domine l'effet de substitution. De plus, une augmentation des dépenses publiques est associée avec une appréciation du taux de change réel. Un relâchement des restrictions commerciales (accroissement du taux d'ouverture) est associé avec une dépréciation du taux de change réel dans les pays du Maghreb. Enfin, le revenu par tête contribue aux variations de long terme du taux de change réel. En effet, le développement économique est accompagné par une appréciation du taux de change réel (effet Balassa-Samuelson).

La spécification (1) présente les résultats de l'estimation en incluant une variable d'interaction entre les entrées nettes d'IDE et l'indicateur de développement financier CREDIT. Les résultats montrent qu'un niveau plus élevé de crédits accordé au secteur privé par rapport au PIB atténue l'appréciation réelle du taux de change induite par les entrées nettes d'IDE. Le coefficient de la variable d'interaction IDE*CREDIT est de signe négatif et statistiquement significatif à 5 %. En particulier, une augmentation d'une unité de CREDIT réduit l'effet des afflux de capitaux sur le taux de change réel de 0.031%.

La spécification (2) présente les résultats de l'estimation en introduisant une variable d'interaction entre les entrées nettes d'IDE et l'indicateur de développement financier, LIQ. Les résultats suggèrent qu'un niveau élevé d'engagements liquides par rapport au PIB atténue considérablement l'effet des entrées nettes d'IDE sur le taux de change réel. Le coefficient de la variable d'interaction IDE *LIQ est de signe négatif et significatif au niveau de 5 %. En effet, une augmentation d'une unité de LIQ réduit l'effet des entrées de capitaux sur le taux de change réel de 0.12 %.

Les entrées de capitaux dans les pays du Maghreb, en particulier les IDE, conduisent à une appréciation réelle du taux de change, mais cet effet est atténué si ces économies disposent des systèmes

[9] L'effet total d'une unité supplémentaire de l'IDE peur être calculé en additionnant le coefficient du niveau d'IDE avec le coefficient du terme d'interaction IDE* indicateur du développement financier et le coefficient de l'indicateur lui-même.

financiers développés. Il importe donc de renforcer les secteurs financiers nationaux, et notamment d'accroître leur capacité à assumer les risques associés à des flux de capitaux transfrontaliers importants et parfois volatils. Les économes maghrébines doivent également faire preuve d'une discipline budgétaire adéquate pour pouvoir tirer profit des flux de capitaux. Il importe aussi de chercher des moyens plus efficaces pour surveiller les flux de capitaux transfrontaliers volatils.

IV. Conclusion

L'objet de cet article est de montrer que, dans l'allocation optimale des ressources, le développement du système financier pourrait atténuer l'appréciation du taux de change réel induite par l'afflux de capitaux. En admettant que les afflux de capitaux permettent d'améliorer la capacité productive de l'économie et de réduire la pression sur la demande globale, la pression à la hausse sur le prix relatif des biens non échangeables devrait être atténuée.

A l'aide des techniques économétriques de panel non stationnaires et pour un échantillon de trois pays du Maghreb entre 1980 et 2008, cette étude a fourni des preuves solides pour cette hypothèse. Nous avons utilisé un modèle de comportement de taux de change qui décrit la relation entre les afflux de capitaux, le taux de change réel et le développement financier. Nous avons en particulier utilisé les tests d'intégration sur données de panel proposés par IPS (2003) ainsi que les tests de cointégration sur données de panel développés par Pedroni (1996, 1999, 2000, 2004), ce qui nous a permis de constater l'existence de plusieurs sources d'impulsion influençant le taux de change réel dans les pays du Maghreb.

Nos résultats montrent que l'approfondissement des marchés financiers nationaux et le renforcement des institutions peuvent atténuer en partie l'un des principaux risques associés à l'afflux massif des capitaux dans les pays du Maghreb – la déstabilisation de la gestion macroéconomique – suite à une appréciation importante du taux de change réel. Ces afflux de capitaux peuvent jouer un rôle important dans l'optique du développement et de la croissance des économies maghrébines.

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The Importance Of Impact In Organizational Changes On Management Accounting Change (Case Study Of Iranian Manufacturing Firms)

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Abstract - Organizations involve technical chnges, humen sources development, and competitive markets. The purpose of this research is studying the amount importance of impact of Manufacturing firms changes on management accounting change. Present research has 4 independent variables that include 1- new accountants 2- new packaging 3- new products 4- weak financial performance which the method of this research is descriptive- survey and in applied kind that researcher uses to reach the research objectives 4 independent variables by use of testing effect on each one of the research variable on management accounting change and friedmon test for studying equal effect of variables and for studing effect of the case study firms size has used ANOVA variance analyze test. Result of the research indirect the effect of variables of research and firms size on the new packaging and weak performance.

Keywords : Management Accounting Changeh, Organizational Chnges, Manufacturing Firms, Iran

GJMBR-A Classification : FOR Code: 140207, 150105, 150306 JEL Code: L16, L60, L70, M41,

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Strictly as per the compliance and regulations of:

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Akbar Allahyri[α], Hassan Heidari Bali[Ω], Morteza Ramazani[β]

Abstract - Organizations involve technical chnges, humen sources development, and competitive markets. The purpose of this research is studying the amount importance of impact of Manufacturing firms changes on management accounting change. Present research has 4 independent variables that include 1- new accountants 2- new packaging 3- new products 4- weak financial performance which the method of this research is descriptive- survey and in applied kind that researcher uses to reach the research objectives 4 independent variables by use of testing effect on each one of the research variable on management accounting change and friedmon test for studying equal effect of variables and for studing effect of the case study firms size has used ANOVA variance analyze test. Result of the research indirect the effect of variables of research and firms size on the new packaging and weak performance.

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I. Introduction

Managers of firms product are under pressure to find the equilibrium ways for decreasing costs and improving quality, along with preserving profitability. In developed countries, firms couldn't beat these challenges, have stopped their operations of have been bought by other firms. Example of this situation occurred for one firm of 100 big Manufacturing firms in Australia between 1988 to 1993 (Adler and et, 2000).

Since 1985 discussion in academic and executive circles is about this object that in many Manufacturing firms, costing system isn't responsible for information requirements and analyzing for decision-making, and some times is argued that the costing systems are big obstacle in persormance of the new technology and perception of firms competitive advantage.

Procedures and new management philosophies, especially total quality management and system production just in time in many developed countries and some develoing countries, as well chnge in information technology, economic, business arena, has been significant impact in style of produce of products and style of function in costing stystems. And the new techniques like activing based costing, objective costing, life cycle costing, quality costing report, and strategic management account has invented and used.

There fore, despite the fact that firms for improvement their competitive advantage have performed new management methods that require change in the Manufacturing method and also in Manufacturing tool. But costing systems, thus face sever criticisms. In this article, along with brief review on management accounting literature evaluated studying the anount of importance of firms organizational changes that we evaluated 4 independent variables to reach research:

1. New accountants
2. New packaging
3. New products
4. Weak financial performance

II. Management Accounting Change

Management accounting seeks to meet the decision needs of an entity's managers. In recent years, entities have been experiencing significant change in their organizational designs, their competitive environments and in their information technologies. In particular, developments in information technology have brought about innovation and change in the collection and analysis of information within and between organizations. Such change has implications for management accounting and management accounting change is potentially an integral part of organizational life in today's global and technology driven society. Almost twenty years ago, Hopwood (1987: 207) argued that 'very little is known of the processes of accounting change'. Subsequent studies have attempted to address this shortfall, for example Pettigrew et al., 1992; Innes and Mitchell, 1990; Cooper, 1990; Scapens and Roberts, 1993; Argyris and Kaplan, 1994; Anderson, 1995; Shields, 1995; Anderson and Young, 1999. Yet, despite such studies, Quattrone and Hopper (2001: 404) argue that 'little is known about what change is'.

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Much has been written on the changing nature of management accounting practice (Bhimani, 1996; Shields, 1997; Burns and Vaivio, 2001). New management accounting techniques have emerged (Bjoornenak and Olson, 1999) in response to changing business environments, along with new organizational designs, new information technologies and new competitive environments. Management accounting changes are usually viewed as arising out of economic imperatives.

In addition, the consequences of accounting technologies are often reduced to a logic of economic incentives and rational economic behavior. This perspective, however, fails to recognize that the origins and application of accounting techniques are not shaped by economic logic alone, but involve far more wide-ranging influences such as changing social, economic and political conditions (Burchell et al., 1980; Neimark and Tinker, 1986; Hopwood, 1987; Preston, 1992; Miller and O'Leary, 1990).

Studies of the process of accounting change address a number of issues, including the management of the process of change (Pettigrew et al., 1992; Innes and Mitchell, 1990; Cooper, 1990; Scapens and Roberts, 1993; Argyris and Kaplan, 1994; Anderson, 1995; Shields, 1995; Anderson and Young, 1999); resistance to accounting change (Scapens and Roberts, 1993; Markus, 1983; Dent, 1991); and the role of technology in the implementation of new accounting systems (Markus and Pfeffer,1983; Orlikowski and Robey, 1991; Orlikowski, 1992). Many of these empirical studies again illustrate the complex sociotechnical forces that influence the process of accounting change. More recently, Burns and Scapens (2000) offer a new framework for analyzing management accounting change which draws upon old institutional economics and structuration theory.

III. Organizational Change

Case studies have presented the reorganization of the organizational structure as a facilitator for management accounting change (Innes and Mitchell, 1990). These findings are confirmed by field research (Laitinen, 2001; Luther and Longden, 2001). In contrast to these findings Cobb et al. (1995) see that changed priorities hinder management accounting improvement. Because a changing organizational structure needs management capacities and is also followed by changed priorities, we see in these changes a barrier to management accounting change. The existing management accounting system must be adapted to the new organizational form and an improvement of methods or technology is hindered.

IV. Literature Review

The basic purpose of accounting information is to help users make decisions. Management accounting is the branch of accounting that produces information for managers and forms an important integral part of the strategic process within an organisation. It involves the process of identifying, measuring, accumulating, analysing, preparing, interpreting, and communicating information that helps managers fulfill organizational objectives (Horngren, Sundem, Stratton, Burgstahler, & Schatzberg, 2007). Chartered Institute of Management Accountants (UK) (2000) views management accounting as an integral part of management which requires the identification, generation, presentation, interpretation and use of information relevant to formulating business strategy, planning and controlling activities, decision-making, efficient resource usage, and performance improvement and value enhancement.

Since Hopwood (1987) asked for further research into accounting change there have been several studies which analyze aspects of management accounting change. Libby and Waterhouse (1996) detected that little is known about the forces which induce or act to impede management accounting systems change. Atkinson et al. (1997) saw one extremely fertile area for research in a systematic inquiry into facilitators and barriers.

Yakhou and Dorweiler (1995) recommended further research into why some companies are slower than others in adopting management accounting innovations. One of the first evidence based studies was published by Innes and Mitchell (1990), who identified in seven case studies, factors which cause management accounting change. In these findings Cobb et al. (1995) missed the consideration of barriers-factors which hinder or prevent change and therefore developed an accounting change model based on a case study of a bank. Overall the processes of change are forced by a combination of random, systematic and internal factors (Burns and Scapens, 2000).

In our study we test drivers and barriers that influence management accounting change.

We focus on a single industry, due to the fact that a single industry analysis has substantially higher internal validity than a cross-sectional analysis (Ittner et al., 2003). We selected the banking industry because Ittner et al. (2003) argued that financial services firms are actively discussing their choice of performance measures and value drivers. Although banks have developed better measures for dealing with risks than other industries (Beasley et al., 2005). Williams and Seaman (2001) found that the determinants of management accounting change cannot be generalized from the manufacturing and industrial sectors to the service sector. Also Al-Omiri and Drury (2007) reported that the financial services sector differs from other industries significantly. Because Helliar et al. (2002) found that development in banks' profitability reporting systems was different from that in other industries, we have to discuss which factors mentioned in previous research into other industries are relevant for the banking industry. There are some earlier studies about management accounting design which also focused on the banking industry (e.g. Cobb et al., 1995; Grimmer, 2003; Helliar et al., 2002; Hussain and Hoque, 2002; Ittner et al., 2003). Luther and Longden (2001) showed that motives for management accounting change can differ from country to country. To avoid national bias, we focus our study on a specific language area.

V. Research Objectives

This research is followed these objectives

1. Studying effective amount of organizational changes in management accounting changes in Manufacturing firms.

VI. Research Hypothesis

1. New accountants impact on managemen accounting change
2. New packaging impact on managemen accounting change
3. New products impact on managemen accounting change
4. Weak financial performance impact on managemen accounting change

VII. Research Methodology

In this article, research methodology is descriptive- survey and in applied. In the direction of entrance to research district has also used field metod. In the direction of gathering required information in research has been also driven profit two primary and secondary data categories that in direction of secondary data, documents, evidences, books, articles, internet searching motors and cvonneted sites are collective circle. Techniques of interview and questionnaire have also used for gathering primary. Research data at statistical society simultaneously.

Random classified sampling method has been applied in the direction of selection of sample volume that in this research firm on base of firm size, small (under 10 individual forces), medium (10 to 50 individuals), large (50 to 150 individuals), extensively large (more than 150 individuals) firm are selected.

Research scientific society, active Manufacturing firms that the number 150 questionnaire is sent, that the number 112 questionnaire and their answers has made criterion for resulting of researcher.

Statictical analyze has been performed in two parts: descriptive and inferential. In the descriptive part, first for general identification case study sample (gender, age, experience of work, study of field, educational degree and number of human forces) frequency table of forming and approximately case study samples have described.

In inferential analyze part by use of test has paid to comparision of observed average of hypothesis seperatly.

If observer average, obtained average of study dample for all hypotheses is significaty is bigger than theroretical average ($\frac{1+2+3+4+5}{5} = 3$) allocated codes in likert spectrum, could accepted that frequency of choices very high and high is less than frequnty of choices vey low or low. Researchers hypothesis, there fore is accepted and by use of fridman test for studing equalization of research variables has performed and then separately by use of testing ANOVA variance analyze impact of the number of human force separately has studied on research variables.

Table No.1, Frequency of Firms Size

Firm Size	Frequency	Percent
>10	4	3.6
10 to 50	56	50.
50 to 150	28	25
more than 150	24	21.4
Total	112	100

VIII. Statistical Analyze

a) First hypothesis test

H_0 : Avarage is less than number 3 (new accountants hasn't impact on management accounting changes!)

H_1 : Avarage is more equal number 3 (new accountants impact on management accounting changes!)

With regard to values of table No.2 value P-value= 0/00 hypothesis zero in level of error 5% is rejected. Means observed average is more equal than 3 and as partical average is more than 3 means theoretical average, thus can result that observed average (3.4286) is significantly more than 3.

On the other words in level of error 5 percent, researcher's hypothesis is accepted. Then could said that new accountants impact on managemen accounting change.

b) Second hypothesis test

H_0 : Avarage is less than number 2 (new packaging hasn't impact on management accounting change!)

H_1 : Avarage is more equal number 2 (new packaging impact on management accounting change!)

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Table No.2, T Test Statistics

Description / Hypotheses	n	$\bar{x}$	Std	t	d.f	Test Value	P-value	Result
First Hypothesis	112	3.4286	0.94644	4.792	111	3	0.000	Accept
Second Hypothesis	112	3.8214	0.76186	11.410	111	3	0.000	Accept
Third Hypothesis	112	3.8571	0.64175	14.135	111	3	0.000	Accept
Forth Hypothesis	112	3.9286	0.80218	12.250	111	3	0.000	Accept

With regard to values of table No.2 value P-value= 0/00 hypothesis zero in the level of error 5 percent is rejected. Means observed average is more equal than 3 and as partical average is more than 3 means theoretical average, thus can result that observed average (3.8214) is significantly more than 3.

In the other words in level of error 5 percent, researcher's hypothesis is accepted. Then could said that new packaging impact on managemen accounting change.

c) Third hypothesis test

H_0 : Avarage is less than number 3 (new products hasn't impact on management accounting change!)

H_1 : Avarage is more equal number 3 (new products impact on management accounting change!)

With regard to values of table No.2 value P-value= 0/00 hypothesis zero in the level of error 5 percent is rejected. Means observed average is more equal than 3 and as partical average is more than 3 means theoretical average, thus can result that observed average (3.8571) is significantly more than 3.

In the other words, in the level of error 5 percent, researcher's hypothesis is accepted. Then could said that new products impact on managemen accounting change.

d) Fourth hypothesis test

H_0 : Avarage is less than number 3 (weak financial performance hasn't impact on management accounting change!)

H_1 : Avarage is more equal number 3 (weak financial performance has effect om management accounting change!)

With regard to values of table No.2 value P-value= 0/00 hypothesis zero in the level of error 5 percent is rejected. Means observed average is more equal than 3 and as partical average is more than 3 means theoretical average, thus can result that observed average (3.9286) is significantly more than 3.

In the other words in the level of error 5 percent, researcher's hypothesis is accepted. Then could said that weak financial performance has effect on managemen accounting change.

e) Testing equalization of research independent variables

For prioritizing and determining importance on each one of the research independent variables (factors involved in prevention of management accounting change) friedman's test has been used. This test suggestes that is there between rstraining factors, a factor of other factors more important or all equal in importance. Researcher has used for test following reject and claim hypotheses:

H_0 : Independent factors of research (organizational changes factors in management accounting change) for impact have equal importance!

H_1 : Independent factors of research (organizational changes factors in management accounting change) for impact haven't equal importance!

With regard to table No.3 value df=3, P-value= 0/00 and prepared value chi- square= 34.557 could resulted that acceptance at meaningful lavel 5% hypothesis and hypothesis is rejected, Means research independent variables (factors involved in prevention of management accounting change) for effect have equal importance could shown ranking order of independent variables in table No.4.

Table No.3 Friedman Test Statistics

N	112
Chi-Square	34.557
df	3
P-value	.000

Table No.4, Mean Ranking of Variable

Independent Variables / Descriptive	Weak financial performance	New packaging	New products	New accountants
Mean Rank	4.19	4.12	3.78	4.08

f) ANOVA Variance Analyze

For studying impact of firm size on independent variables of research has been used ANOVA variance analyze that their results has reflected in table No.5 that we embark on explanation of its result. As regard the average levels of volumterrs isn't equal in all variables.

Table No, 5 ANOVA Test

Independent Variable	Source of Changing	Sum of Squares	df	Mean square	F	P - Value	Result
New Accountants	Between Groups	1.524	3	0.508	0.560	0.642	Reject
	Within Groups	97.905	108	0.907			
	Total	99.429	111				
New Packaging	Between Groups	9.000	3	3.000	5.845	0.001	Accept
	Within Groups	55.905	108	0.513			
	Total	64.429	111				
New Products	Between Groups	0.857	3	0.286	.688	0.561	Reject
	Within Groups	44.429	108	0.415			
	Total	45.714	111				
Weak Financial Performance	Between Groups	10.952	3	3.651	6.520	0.000	Accept
	Within Groups	60.476	108	0.560			
	Total	71.429	111				

IX. Research Finds And Results

This article has followed presentation of surveying research results of active Manufacturing firms. Selected firms, also are small, medium, large and extensively large. Practiced results of testing research hypothesis indicate organizational changes have more important in management acoounting change.

For studying equalization of impact on research independent variables that has been used fridman test indicate that impact of research independent variables in equal.

In the direction of recognization impact of research main variables by firm size use ANOVA parametric that results of test indicate in the line with second and fourth variables (new packaging and weak financial performance).

In a general result could said that in Iranian firms 4 independent variables are more important in management accounting change and so, firms must attention to the new methods of management accounting defore their organizational changes. Because by entrance of the new products by oackaging and new facilities else old costing methods for decision-making aren't useful, firms, therefore for ncreasing competitive power in market and industry impose cost of management accounting change for themselves to use its benefit in future.

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Evaluating The Determinants Of National Innovative Capacity Among European Countries

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EVALUATING THE DETERMINANTS OF NATIONAL INNOVATIVE CAPACITY AMONG EUROPEAN COUNTRIES

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Maria Manuela Santos Natário[α], João Pedro Almeida Couto[Ω], Maria Teresa Borges Tiago[β], Ascensão Maria Martins Braga[ψ]

Abstract - This paper reflects upon the factors that influence the national innovative capacity that is based on the European Innovation Scoreboard database. The aim is to reflect on, and evaluate, the factors influencing national innovative capacity. A cluster analysis was conducted to verify how different countries are positioned in terms of innovation outputs and determine which factors distinguish their level of innovative capacity. The results point to the existence of four groups of countries. On the other hand, the factors identified are related to the dimensions of institutional efficiency, namely the efficiency of institutions, types of regulation, effective rule of law and level of corruption, societies' cultural values associated with the level of hierarchy or "power distance" and "uncertainty avoidance." Aspects are related to the innovation framework, such as doctorates in science and engineering, business Research & Development expenses, and the level of collaboration for innovation.

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I. Introduction

The capacity for innovation plays a dominant and decisive role in determining who thrives in the global arena. For firms, innovation has the power of establishing a competitive advantage in the context of increasing globalization. For countries, the innovation capacity is a source of prosperity and growth (Belitz et al., 2008). Thus, national objectives may be achieved by increasing productivity and attracting investment to sustain continuous improvement in standards and quality of life.

The concept of innovative capacity was introduced by Suarez-Villa (1990), to measure the level of invention and the potential for innovation in a nation. According to Suarez-Villa, the measurement of the innovation capacity can provide important information about the dynamics of the invention in economic activity. This knowledge can be used by policy-makers and scholars to better understand the changes in invention patterns, technology and competitiveness. The national innovative capacity can provide comparative information regarding the evolutionary process of inventive activity, as well as information on its relationship with the primary factors of the invention. Thus, the innovation capacity of an area is linked to the territorial dynamics of the innovation, legal and/or individual, and is conditioned by the specific characteristics of each area based on the five groups of factors/dimensions of this crucial process.

Considering these observations, the aim of this paper is to evaluate the factors that influence national innovative capacity. In this sense, and taking into consideration the European Innovation Scoreboard, we analyzed innovative capacity in terms of Small and Medium-sized Enterprises innovative behaviour. In the present paper, five hypotheses are proposed: the first is related to the influence of the institutional efficiency on innovative capacity; the second pertains to the role of national culture; the third refers to the influence of the innovation's collective infrastructures (human resources and the dynamics of learning and training) in the promotion of innovative capacity; the fourth focuses on the sustainability and support system of innovation; and the fifth is associated with the linkages and cooperation networks used to stimulate innovation capacity.

The rest of the paper is structured as follows. On the and decisive role in determining who thrives in second point, a brief literature review is performed regarding the innovative capacity. The third point describes the conceptual Model and the hypotheses. The two last points illustrate the methodology and primary findings of the data, as well as discusses these results and their implications, stressing the limitations of the work and suggesting avenues for future research.

II. Literature Review

National innovative capacity can be broadly defined as the institutional potential of a country to

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sustain innovation (Hu and Mathews, 2008; Huang and Shih, 2009). The concept of innovative capacity was introduced by Suarez-Villa (1990) to measure the level of invention and innovative potential of a nation. According to Suarez-Villa, measuring the innovative capacity may provide important information about the dynamics of the invention in the economic activity. Such knowledge may be used by policy-makers, or academics, to assist in the understanding of the changes in the invention, technology and competitiveness. They can then take action accordingly.

The concept of innovation capacity emerged as a meta-concept to denote the real and potential capabilities of a system to convert knowledge into innovation, which is able to drive long term economic growth and wealth creation (Lundvall and Johnson, 1994, Freeman 1995, Furman at al. 2002, Schiuma and Lerro 2008). For Matheus and Hu (2007), the innovative capacity of a country is the basic driving force behind its economic performance; it provides a measure of the institutional structures and support systems that sustain innovative activity.

The concept of national innovative capacity was explained in the works of Porter and Stern, (1999); Stern et al. (2001) and Furman et al. (2002). Their primary purpose was to measure the origin of the differences between countries regarding the innovative production, reflecting upon the analysis of the clusters of innovation. For these authors, the national innovative capacity is the country's capacity (as a political and economic entity) to produce and trade a new flow of technologies, reflecting the fundamental determinations of the innovation process at all levels, not only the output level (Stern et al., 2001).

In the last few years, several works have been enriching this analysis and clarifying the concept. It has been introduced and adopted by different scholars interested in researching and understanding the factors and root determinants of innovation dynamics and the capabilities of development (Furman et al., 2002; Howells, 2005, Schiuma and Lerro, 2008).

Using a managerial approach, Suarez-Villa (2003) analyzed the relationship between the inter-organizational networks and innovative capacity, from which emerges a new type of organization: the "experimental firm". Belderbos et al. (2004) analyzed the impact of Research and Development (R&D) in cooperation with the innovative performance of the firm at the level of employment creation and innovation productivity, by considering the countries from the Community Innovation Survey II.

Camelo-Ordaz et al. (2005) studied how certain top management teams characteristics influence innovative capacity in companies, conceptualized in terms of levels of product innovation. Ganzaroli et al. (2006) examined the relationship between business succession and innovative capacity, to explore business transfers as a potential source of innovation in Small and Medium - sized Enterprises (SMEs). Henttonen (2006) pointed out the role of internal and external innovation networks in driving forward a firm's innovative capacity.

At the territorial level, several authors sought to identify factors, or determinants, affecting innovative capacity in the country and/or regions. Ridel and Schwer (2003) used the model proposed by Romer (1990) and tested by Furman et al. (2002), to determine the endogenous relationship between employment growth and the innovative capacity, applying it to the United States of America (US). On the other hand, Archibugi and Coco (2005) compared different methodologies adopted by worldwide organizations (World Economic Forum - WEF, UN Development Program - UNPD, UN Industrial Development Organization - UNIDO and RAND Corporation), to measure the national technological capacity. In studies by Pontikakis et al. (2005) and Jaummotte (2006), they discuss the functioning of the national innovation systems, its performance and the role of incentives in maintaining and improving the national innovative capacity.

Hu and Mathews (2005) extended and modified the Furman et al. (2002) approach, applying it to five "latecomer" countries from East Asia, in particular, Taiwan. While the results are in broad agreement with the findings of Furman et al. and Hu and Mathews, some important differences for latecomer East Asian economies exist such as the number of national factors that matter is smaller and an important (though subtle) role seems to be assumed by the public R&D expenditure, acting as a steering mechanism for the private sector.

On the other hand, university-based R&D (a basic research resource) has not exhibited a significant effect over the past two decades. Hu and Mathews (2005) demonstrate that the public R&D funding in East Asia greatly strengthens the contribution of specialization in the high-tech industries, however, this effect was only registered when a latecomer country was pursuing a targeted strategy of catch up, as in the case of Taiwan.

More recently, Mathews and Hu (2007) examined the efforts of Taiwan's academic innovation through institutional and organizational reforms. They also evaluated its impact in assisting Taiwan in moving beyond the phase of being a catch-up manufacturing fast follower to that of an innovation-based technology developer. In 2008, Hu and Mathews performed the first study on China's national innovative capacity', extending their earlier work conducted on the East Asian Tiger economies. They found an increase in patenting activity by Chinese firms and organizations since 2001, and analysed the drivers behind this, as well as the quality characteristics of patenting, in terms of intensity impact and links with the science base.

The innovation capacity in China was also studied by Fan (2008). The author analyzed the innovation capacity and economic development in China and India, focusing on the transformation of national innovation systems. Fan (2008) considers financial investment and human resources in R&D as two important input factors for building up the innovation capacity of a nation. He also stresses the role of both governments in transforming their national innovation systems to become more adaptable to economic development. One of the primary focuses of R&D reforms was to integrate the science and business sectors and provide incentives for innovation activities.

The study by Natário et al. (2007) reflected upon the factors that influence national innovative capacity, based on the European Innovation Scoreboard (EIS) database. These authors tested the importance of the innovation of variables that were not considered in the innovation scoreboard, namely national cultural aspects and institutional efficiently, together with variables that were normally compiled in the scoreboard, such as expenditures and human resources qualifications, namely tertiary education, sciences and engineering graduates.

At the regional level, Schiuma and Lerro (2008) discussed the role and relevance of knowledge based capital as a strategic resource and a source of regional innovation capacity. They identified human, relational, structured and social capital, as the four primary knowledge based categories, building up the knowledge based capital of a region. Schiuma and Lero (2008) used the concept of innovation capacity to refer to the overall innovation capabilities that a region can express, both in practice, and potentially. This model includes both the innovation dynamics taking place at the regional level, and those that could potentially be developed by policy andmanagement actions, by leveraging local and external knowledge resources.

The relationship between national innovative capacity and network contamination effects on the international diffusion of embodied and disembodied technology was analysed by Huang and Shih (2009). Their work examined two different social network models: cohesion models based on diffusion by direct communication; and, structural equivalence models, based on diffusion by network position similarity. The empirical results found distinguishable influences upon the performance of the national innovative capacity between countries with different technological diffusion forms and social proximity.

Embodied or disembodied technology diffusion through structural equivalence mechanisms has a significant influence on the performance of national innovative capacity. However, a country is affected more by its structurally equivalent competitors, than by its cohesion partners. Moreover, embodied or disembodied technology diffusions through cohesion mechanisms may have negative effects on the performance of national innovative capacity, which can be regarded as international technology diffusion via global stratification patterns (Huang and Shih, 2009).

As a result, the innovative capacity is not concerned with any single aspect of innovation performance, but with sources of its sustainability (Matheus and Hu, 2007). A country's innovative capacity, considered as the ability of people and companies to create and transform knowledge into new, marketable products and services and more efficient processes, cannot be measured directly (Belitz et al., 2008).

The innovative capacity of a territory, nation or region, is grounded in its microeconomic environment and related to the number of scientists and engineers in the workforce and in the degree of protection of intellectual property and in the power of the clusters. This last point reflects upon the concentrated location of the resources that harness the managerial competitiveness.

For Stern et al. (2001), national innovative capacity relies on three vectors: (1) the endogenous growth based on the ideas of Romer (1990); (2) the theory of the industrial clusters based on the nation's competitive advantages developed by Porter (1990); and (3) the research developed in the nationalinnovation systems presented by Nelson (1993). Its differences reflect the variations in economic geography, namely, the impact of the knowledge and spillovers of innovation amongst closely situated companies, and in the innovation's policies through the level of public support for basic research or the protection of intellectual property.

Stern et al. (2001) and Porter and Stern (1999) have highlighted the importance, not only of the present competitiveness, but also of the capacity of sustaining it in the future, considering the following aspects as determinants of the national innovative capacity: common facilities such as public institutions, resources committed, policies that support innovation; the environment for innovation in the industrial clusters of a nation; and the quality of the relationships amongst the capacity to narrow the gap between research, the companies and the collective efforts that contribute to an entire set of specialized personnel and technology. The innovative performance of economies results from the interaction among these three categories. The national innovative

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capacity is supported by the innovation systems' approach, amongst others. This systemic innovation approach has brought with it new knowledge about the performance, as well as the innovative and economic capacity of the countries.

To be innovative, a country requires, first and foremost, a well-functioning national innovation system1. It secondly requires a favourable social climate for innovation (Belitz et al., 2008). Theseauthors present a composition of the innovation indicator for Germany, 2008; composed by aninnovation system and social climate for innovation.

The first indicator is composed of education (highly qualified individuals), and R&D (new knowledge),financing (sufficient capital), that together are responsible for impelling networking (from partners),competition, implementation and demand market. The social climate for innovation (second indicator) is related to public opinion on the process change, social capital, trust, and science and technology.

For Natário et al. (2007), a country's national economic capacity depends on that country's institutional efficiency, its national culture and its innovation framework. The primary differences in the level of innovative capacity are associated with the efficient functioning of the national innovation systems. This requires a combination of the economic framework and the different institutions of the countries, in the determination of the direction and ratios of the innovative activities, a strong national culture for innovation and infrastructures supporting innovation.

To measure the innovative capacity, Matheus and Hu (2005) and Hu and Matheus (2008), applied the ratio of the take-up of patents, issued by the US Patents and Trademarks Office (USPTO). For these authors, patents are widely recognized as providing a reliable and unbiased indicator of the innovation effort of a country. The adoption of patenting activities by Chinese firms and organizations at the USPTO were used as a measure of China's National Innovative capacity (Griliches, 1990; Trajetnberg, 1990). To group countries by innovative capacity and innovation output, Natário et al. (2007) used the ratio of patent registration of the European Patent Office (EPO) and US Trademark Office (USPTO), measured by the ratios of high tech patent applications and general patent applications, relative to the population.

However, patents are not only acknowledged as providing a reliable and unbiased indication of the innovation effort being expended by a country, but also regarded as a country's R&D performance (Huang and Shih, 2009). R&D and patents are indicators that have major limitations for understanding the complexity of innovation processes. In fact, the innovation output indicator may be biased by the very characteristics of the National Innovation Systems, as Lorenz (2005) has shown.

This topic has been the focus of discussion in the context of the revision of the EIS (Arundel and Hollanders, 2007; Hollanders and van Cruysen, 2008; Simões, 2008). A number of previous studies (Archibugi and Pianta, 1996; Smith, 2005) have assessed the strengths and weaknesses of different technology indicators, pointing out that R&D and patents have limited relevance in the innovative activities of some manufacturing, and most service, sectors, resulting in a serious underestimation of the extent of innovative efforts in these industries. In their empirical analyses, these data have the advantage of being available over an extended period of time (time series data) for firms, industries and countries (Bogliacino and Pianta, 2009).

There is little doubt that patenting indicators cannot be considered as an innovation performance indicator. First, as several studies have illustrated, the use of patents is a volatile variable, varying according to the industries characteristics (Winter,1987). Therefore, it is not totally accurate to consider patents as an innovation performance indicator, much less the innovation performance indicator. For this reason, the EIS 2008 no longer labelled patents as an output indicator, but rather a throughput indicator (Hollanders and van Cruysen, 2008).

Effectively, a new methodology has been used for theEIS 2008 report that is intended for use in the 2009 and 2010 reports, following a better understanding of the innovation process. The revision of the EIS methodology was a direct result of the challenges discussed in the EIS 2007 report to: 1) measure new forms of innovation; 2) assess overall innovation performance; 3) improve comparability at national, regional and international levels; and 4) measure progress and changes over time. The purpose of this revision has developed dimensions that brought together a set of related indicators to provide a balanced assessment of the innovation performance. The blocks and dimensions have been designed to accommodate the diversity of different innovation processes and models that occur in different national contexts (Hollanders and van Cruysen, 2008).

Thus, it appears that under the new methodology used by EIS, patents that were in the previous Community Innovation Survey included in the definition of indicators "OUTPUT - Intellectual property" will be considered "Throughput" (as stated) indicators, or one of the dimensions used to capture the innovation efforts of firms. In view of this, and attempting to contemplate these concerns, to measure the

[1] The designation - national innovation systems - refers to enterprises, institutions and surrounding conditions that influence the process by which innovation arise (See Lundvall (1992) and Edquist (1997).

innovative capacity of a nation was chosen by the required output of the EIS. This captures the outputs of firm activities, namely, the Innovators dimension.

This dimension captures the success of innovation by the number of firms that have introduced innovations onto the market or within their organizations. It covers both technological innovations and non-technological. Consequently, the variables considered to measure innovation were SMEs introducing product or process innovations (% of SMEs), SMEs introducing innovations that are marketing or organisational (% of SMEs); reduced labour costs (% of firms) and the reduced use of materials and energy (% of firms).

III. Conceptual Model and Hypotheses

With the understandings that emanate in the theoretical foundations, the following dimensions, or groups of factors, are considered determinants of the territorial innovative capacity (Figure 1): institutional efficiency, based on the commitment and performance of the institutions, national culture, human capital, innovation's workers skills and technological intensity, as well as the financial resources for innovation, and linkages and entrepreneurship.

The national innovative performance is conditioned by the specific characteristics of each country on the basis of five dimensions. In this paper, five hypotheses are proposed: the first is related to the influence of the institutional efficiency on innovative capacity, the second pertains to the role of national culture, the third refers to the influence of the innovation's infrastructures in the promotion of innovative capacity, the fourth is qualified by the financing support of innovation and the fifth is associated with the linkages and cooperation networks used to stimulate/promote the innovation capacity.

Academic institutions are increasingly seen as influencers in the innovation capacity in a triple perspective or mission: triple helix (Vang-Lauridsen et at. 2007) acting as a spiral of knowledge capitalization. They produce and coordinate the available scientific and technological knowledge; they provide superior graduation and skills for the industry, and through interaction with the industry and the creation of incubators, directly contribute to the development of the region (Vang-Lauridsen et al., 2007).Relying on the innovation systems' approach of Lundvall (1992), Nelson (1993), Edquist (1997),Lundvall et al., (2006) and Asheim and Coenen (2006), and considering that the national innovation system is defined as a complex set of actors (companies, and institutions), that whether in interaction or assembled, they are organized to augment innovation (creation, diffusion and appropriateness) and promote competitiveness of this country; one can admit that the efficient functioning of these systems is associated with its institutional efficiency.

The specific institutional factors setting prevailing in a region plays a significant role in regard to the formation of a RIS (Regional Innovation System) and one of five primary sub-systems of the RIS suggested by Trippl (2006). The focus is on both formal institutions (such as laws, regulations, among others) and informal institutions (values, practices, routines, among others). Institutions matter, because they shape the behaviour of actors and the relationships between them. Factors such as the prevalent patterns of behaviour, values and routines, culture of cooperation and attitudes towards innovation constitutes the key factors of a region's distinct institutional endowment (Trippl, 2006).

To test this hypothesis, we considered, as measurement variables, the stability and absence of violence and terrorism, government efficiency, regulatory quality, effective rule of law, control of corruption and voice and accountability, as defined by Evans and Rauch (1999) and Kaufmann et al. (2008), who calculated an index of these variables for different countries. Therefore, the first hypothesis is:

H1 : Institutional efficiency has a positive influence on innovative capacity.

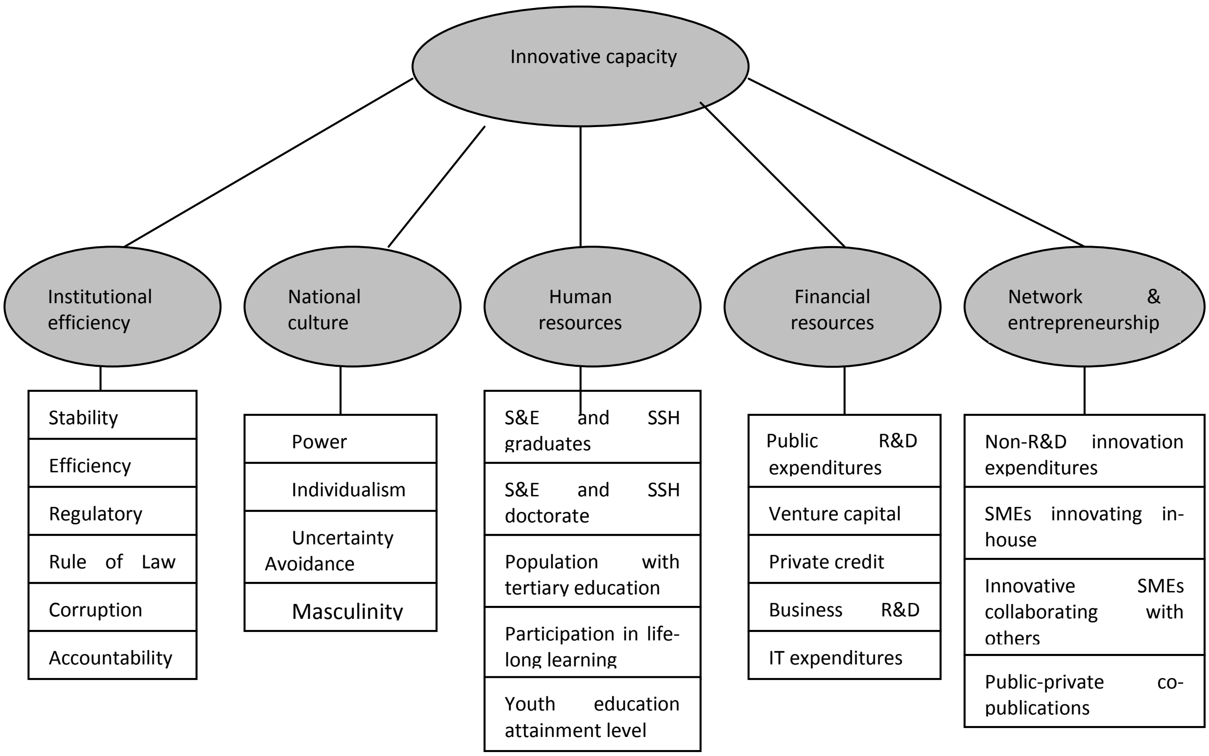

Figure 1 : Determinants of Innovative Capacity

Another determinant of national innovative capacity is the national culture, which influences the relationships, the constitution of innovation and cooperation networks, as well as the innovation system, and therefore, the innovative capacity. Porter (1990, 1998) and Dunning (1998) reiterated the importance of the national elements in international localization and the significance of the clusters to promote competitive advantage. The conditions to innovate are not applied universally, thus, each nation must determine its own characteristics in light of its own history, cultural values.

Hence, to measure the influence of national culture upon innovative capacity, the cultural dimensions of Hofstede (1987) were taken into consideration. The first of these dimensions is Power Distance that reflects the capacity of a society to accept an asymmetrical distribution of power; it varies from country to country. The second dimension is Individualism, which may be apprehended as the importance that is given to the objectives and individual efforts, as opposed to the objectives and collective efforts. The third is Uncertainty Avoidance, or the amount of uncertainty about future events that people of a certain national culture are willing to accept. The fourth is Masculinity that reflects the level of assertiveness promoted in the national culture. These dimensions, when taken together, allow for the classification and distinguishing of national cultures.

The definition of the second hypothesis rests upon a body of literature which includes papers by Hofstede (1987), Ronen and Shenkar (1985), Kogut and Singh (1988) and Schneider and Barsoux (1997). The variables of significance correspond to Hofstede's cultural dimensions, namely: power distance, uncertainty avoidance, individualism and masculinity. In the face of these considerations, the following hypothesis was established:

H2: The Dimensions of National Culture have a positive influence on innovative capacity.

The innovation's collective infrastructure is the third pillar of national innovative capacity, according to several authors (Asheim and Coenen, 2006; Stern et al., 2002; Riddel and Schwer, 2003; Stern et al.,2001; Suarez-Villa, 1990, 1997). The creation of new knowledge is heavily dependent on a sufficient number of qualified scientists and engineers; for diffusion to take place, what matters most is the competence and talent of the workforce. In this sense, the works qualifications are essential for the success, or failure, of a country's innovative efforts in the creation and diffusion of new knowledge.

Territories acquire great value from their innovation dynamics, depending on their capacity to create, disseminate and reproduce knowledge for products and services offered on the market in the creation of value. These dynamics are favored by the concentration of knowledge based, highly technological activities that employ human resources with high levels of education and qualification in the science & technology domain, such as the high-tech and service sectors.

The highly qualified individuals (education) are key players in innovation (Belitz et al., 2008). Consequently, the qualified human resources, in conjunction with an environment that stimulates intensive learning processes in R&D, may combine previous knowledge and explore new possibilities (Laranja, 2001), as well as stimulate innovation and creativity (Davenport and Prusak, 1998; PNUD, 2001).

According to the literature, human resources are a key element of innovation. Innovation growth depends on the quality and availability of knowledge. Thus, it is a fundamental the qualification of human resources and the participation in life-long learning. In addition, the dynamic of learning and training influences the innovative capacity of the territories (Lundvall, 1992; Edquist, 1997; OECD, 2000a; Doloreux, 2004; Lundvall et al., 2006; Vang-Lauridsen and Chaminade, 2006; Vang-Lauridsen et al., 2007).

Consequently, to test this hypothesis, the following variables were considered: science and engineering (S&E) and Social Sciences and Humanities (SSH) graduates (per 1000 population aged 20-29); S&E and SSH doctorate graduates (per 1000 population aged 25-34); population with tertiary education (percentage of people in the 25-64 age class); the participation in life-long learning per 100 people in the population aged 25-64 and the youth education attainment level. The third hypothesis has the following configuration:

H3: The Innovation's Collective Infrastructure Training has a positive influence on innovative capacity.

The creation of new knowledge may be stimulated through the increase of public and managerial R&D, as well as through the investment in information and communication technologies (ICTs). Countries make interactions that affect each other's performance on economics, politics and culture, due to the development of information technologies (Huang and Shih, 2009).

As largely emphasized in the literature, ICTs are vehicles for process innovation. The effects of ICTs on a firms' competitiveness does not only regard process innovation, but also influences product innovation, by stimulating product differentiation, the development of new market niches, and directly allowing the implementation of new technological products (Camagni and Capello, 2005). Therefore, at the territorial level, ICTs spontaneously act on accessibility, creating the ability to overcome territorial periphery and the generation of the popular perception of "dead of distance" (Castells and Hall, 1994; Camagni and Capello, 2005).

For Mathews and Hu (2007), the significant effect of public R&D expenditures emerges as an important determinant of the degree of specialization of the countries; it can be seen as a source of innovation. As a result, they examine inputs in the form of R&D expenditures to measure the national innovative capacity of a country. In turn, Hu and Mathews (2005) documented the important role of public R&D expenditures in acting as a steering mechanism for the private sector.

Private credit conditions and venture capital are considered obstacles or vehicles for the development of innovations. To test this hypothesis, we considered Business and Public expenditures on R&D (percentage of GDP), Venture capital (% of GDP), Private credit (relative to GDP) and IT expenditures (% of GDP) as measurement variables. These considerations led us to frame the fourth hypothesis of the study as:

H4: Financing resources for innovation have a positive influence on Innovative Capacity.

Another relevant aspect in the innovative performance of the territories is the coordination approach of the innovation activities: individually or in cooperation. The collaboration and the behavior in cooperation to innovate are modalities which present many benefits: the sharing of risks and costs which the innovation entails; accessing new and different markets; obtaining additional fundamental resources for innovation; accessing information, skills and specialists; and reducing development time for innovations (Von Stamm, 2005).

The related R&D management literature stresses the necessity for the interaction among organizations to bring forth the progress of technological innovation between developers and users of new technology to enhance development (Huang and Shih, 2009).

Schiuma and Lerro (2008) argued that innovation requires long-term cooperation between investors, entrepreneurs, researchers, firms, public authorities and consumers. Networking is the synergetic relationships that link the stakeholders within a region, as well as the external innovation players. It is one of three primary dimensions affecting a regional innovation capacity.

Effectively, the learning process is an interactive characteristic and involves networking among firms, as well as dynamism in local reworks. This requires the development of linkages, networks and cooperation between different actors (Lundvall, 1992).

Within a territory, there is particular importance to promote regional innovation, the artificial creation of the milieu through technological parks and cooperation between the various local actors and the network linkage (Landabaso, 1997). Many studies have illustrated that cooperation relationships are an efficient vehicle to promote innovation and competitiveness in a region or territory (Lundvall,1992; Edquist, 1997; OECD, 1997; Bramanti, 1999; Doloreux, 2004; Henttonen, 2006; Vang- Lauridsen et al., 2007).

The network relationships of cooperation facilitate the production and transmission of the knowledge flow, the innovative performance determination of the companies and the territorial innovation process' influence. Huang and Shih (2009) amplified that the influence of national innovative capacity requires a reinforcement of the internal elements. In addition, they recommend concentrating on the interaction between cohesive countries. Developing networks represents a method to increase the amount of accessible knowledge and improves the innovation capacity (Schiuma and Lerro, 2008). In face of these considerations, the following hypothesis was established:

H5 : The Systems of Interactions and Entrepreneurship have a positive influence on Innovative Capacity.

IV. Methodology and Results

The primary data source used to evaluate the national innovative capacity was the European Innovation Scoreboard for 2008. This database contains European country innovative activity and performance data and is revised annually.

The method used for the analysis is based on the application of a cluster analysis, to group the countries according to innovative capacity, measured by the level of innovation output. To verify the hypothesis, we applied multiple means comparison tests to distinguish the unique characteristics of each cluster. This methodology groups the countries according to their level of product and process innovation, marketing and organizational innovations, innovations that reduce labor cost and innovations that reduce the use of materials and energy.

The groups constituted of countries with similar records and those with dissimilar records. Considering that similarities are a set of rules that serve as criteria for grouping or separating items, in the present case, the SMEs introducing products or process innovations; SMEs introducing marketing or organizational innovations; reduced labor costs; and, reduced use of materials and energy were considered. This methodology maximizes the homogeneity of countries within a group and constitutes groups that are heterogeneous to each other, by minimizing the variance within the groups and maximizing the variance between the groups.

The use of cluster analysis proved to be adequate. The variables used to classify the countries were all significant for the final solution estimated.This was verified by conducting an ANOVA analysis (Table 1).

	Cluster Mean Square	df	Error Mean Square	df	F Mean Square	Sig. df
SMEs introducing product or process innovations	670,658	3	24,848	20	26,990	0,000
SMEs introducing marketing or organisanational innovations	975,489	3	44,731	20	21,808	0,000
Reduced labour costs	242,534	3	14,098	20	17,204	0,000
Reduced use of materials and energy	86,490	3	8,096	20	10,683	0,000

Table 1 : ANOVA Analysis

The results illustrate that all classification measurements used in this analysis were significant. The value of the significance probability is almost null and permits us to reject the null hypothesis stating that the measurements' are not significant in classifying the countries.

The application of the cluster analysis identified four country groups. The first consisted of Austria, Germany, Estonia and Luxembourg; the second consisted of Belgium, Czech Republic, Denmark, Ireland, Italy, Netherlands, Norway and Turkey; the third consisted of Bulgaria, Spain, Hungary, Lithuania, Malta, Poland, Romania and Slovakia; and, the fourth consisted of Cyprus, Greece, France and Portugal (Table 2).

Cluster 1	Cluster 2	Cluster 3	Cluster 4
Austria	Belgium	Bulgaria	Cyprus
Germany	Czech Republic	Spain	Greece
Estonia	Denmark	Hungary	France
Luxembourg	Ireland	Lithuania	Portugal
	Italy	Malta	
	Netherlands	Poland	
	Norway	Romania	
	Turkey	Slovakia	

Table 2 : Cluster Membership

These four groups presented different patterns in regard to their performance in terms of innovative capacity. The results in Table 3 illustrate that the first cluster has a higher percentage of firms that have conducted an introduction of new products or processes and introduced marketing and organization innovations.

The fourth group follows in terms of innovation indicators, but with an emphasis on innovations that reduce labor costs, materials and energy consumption. The second group is less innovating than the first and fourth groups. The third group, on the other hand, illustrates a much smaller innovative profile than the second.

	1 (n=4)	2 (n=8)	3 (n=8)	4 (n=4)
SMEs introducing product or process innovations	45,9	32,8	19,6	35,1
SMEs introducing marketing or organisanational innovations	57,9	39,9	27,2	49,2
Reduced labour costs	13,6	16,0	12,2	20,2
Reduced use of materials and energy	8,4	8,7	10,3	17,9

Table 3 : Cluster Constitution

To interpret the relationship between the explanatory variables and the dependent variable of innovative capacity, we tested group mean differences regarding the variables considered in the hypothesis.

Regarding the importance of the institutional efficiency in the innovative capacity, we may state that Cluster 3, with minor innovative capacity, illustrates a smaller institutional efficiency in most of the variables used to measure this aspect, namely, in the relationship with the first cluster, with the exception of the stability and accountability indicators that we observed in Table 4.

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Dif.
Stability	1,22	0,95	0,88	0,84	
Efficiency	1,62	1,36	0,59	1,12	1>3
Regulatory	1,61	1,32	0,86	1,27	1>3
Ruleoflaw	1,61	1,31	0,67	1,06	1>3
Corruption	1,68	1,31	0,41	1,06	1>3
Accountability	1,32	1,17	0,95	1,15	

Table 4 : Mean Differences among Groups -Institutional Efficiency

Considering the influence of the differences in the dimensions of national culture on innovative capacity, we observe that the countries that constitute Cluster 3, by opposition to the ones that constitute Cluster 1, national culture characterized by a stronger power distance. This stronger power distance, verified in the countries within Cluster 3, seem to have a negative innovation influence, possibly due to aspect that is derived from strong power distances like less open communication channels, leading to lesser cooperation, to minor network relationships and to less interaction, which, in turn, limits the country's innovative capacity (Table 5).

The results also illustrate that the countries in the Cluster 4 exhibit much higher uncertainty avoidance than countries in Clusters 1 and 2. Being that the characteristics of the countries in Cluster 4 illustrate innovation activities in reducing labor costs and materials an energy use, we can speculate that these cultural characteristics are related to the objectives considered in terms of innovation.

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Dif.
PowerDistance	39,00	41,38	72,17	63,67	1<3
Individualism	69,25	67,38	50,33	44,33	
UncertaintyAvoidance	48,50	57,50	71,50	100,67	1,2<4
Masculinity	64,50	43,63	67,00	43,67	

Table 5 : Mean Differences among Groups - National Cultural Dimensions

Regarding the human resources indicators, we observed that the number of doctoral graduates in S&E and in Social Sciences and Humanities (SSH) is higher in Cluster 4 that all of the other clusters, but the remaining indicators were not found to be significantly different (Table 6). Based on these results, although there were some differences, When we did not see a clear pattern that differentiated the clusters in terms of human resources capabilities.

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Dif.
S&E and SSH graduates	34,00	34,56	40,95	34,05	
S&E and SSH doctorate graduates	1,30	0,93	0,74	2,87	1,2,3<4
Population with tertiary education	26,20	25,19	20,14	24,95	
Participation in life-long learning	8,53	11,55	4,74	6,02	
Youth education attainment level	77,05	78,68	80,16	77,57	

Table 6 : Mean Differences among Groups - Human Resources

When we look at the financing of innovations, we can see significant differences in Business R&D expenditures (Table 7). In this aspect, the countries in cluster 1 and cluster 2 have higher levels than countries in the cluster 3 and 4. In all other aspects, there were no statistically significant differences between the groups. Therefore, business efforts influence innovation performance.

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Dif.
Public R&D expenditures (% of GDP)	0,60	0,62	0,40	0,49	
Venture capital (% of GDP)	0,04	0,08	0,05	0,05	
Private credit (relative to GDP)	1,48	1,38	0,85	1,65	
Business R&D expenditures (% of GDP)	1,38	0,92	0,31	0,58	1,2>3,4
IT expenditures (% of GDP)	2,87	2,54	2,39	2,03	

Table 7 : Mean Differences among Groups - Support Systems

In terms of linkages and entrepreneurial efforts, we can see major differences between the groups. In terms of non-R&D innovation expenditures, SME's in-house innovation activities and innovative collaboration, we observed significant differences between the clusters. More specifically, the countries in Cluster 1 have higher levels on these three aspects of innovation. Cluster 4 also tended to have a higher level, when compared with Cluster 3 (Table 8).

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Dif.
Non-R&D innovation expenditures	3,10	0,49	0,88	0,77	1>2,3,4
SMEs innovating in-house	40,07	30,48	17,29	34,18	1>2,3 and 4>3
Innovative SMEs collaborating with others	15,79	9,62	6,10	19,29	4>2,3 and 1>3
Public-private co-publications per million population	5,37	6,03	2,49	4,62	

Table 8 : Mean Differences among Groups - Linkages & Entrepreneurship

These results illustrate the importance of entrepreneurial efforts in non-R&D innovation expenditures and in developing in-house innovation activities, as well as the need for collaboration between firms.

V. Discussion and Conclusions

This paper contributes to the existing literature in the way it tests the importance of variables that have not been considered in the innovation scoreboard, namely national cultural aspects and institutional efficiency, together with variables that are normally considered in the scoreboard, such as expenditures and human resources, financing of innovation, linkages and the entrepreneurial efforts of firms. We determined that the primary differences in the level of innovative capacity are associated with the efficient functioning of the different national institutions of the country, a low power distance national culture, doctoral graduates in S&E and SSH, business efforts that finance R&D, firms efforts that develop in-house innovation, the support of non-R&D innovation activities and collaboration among firms to innovate. These results support Hypothesis 1, that stated that the national innovation capacity is influenced by institutional factors, since the aspects of institutional efficiency, the type of regulation, the effective rule of law and the control of corruption levels were found to be significant variables in distinguishing the more innovative countries from the less innovative ones.

The second hypothesis stated that the national culture has an influence on the country innovative capacity. This hypothesis was supported, since lower power distance countries were found to have higher innovative capacity then those countries with lower scores. This may suggest that hierarchical societies have less freedom of initiative and communication necessary for collaborative efforts and produce fewer innovations. These results are in line with Hypothesis 3, since the human resources qualifications are relevant for innovation, namely, the level of doctoral graduates in S&E and SSH were higher in more innovative countries, when compared with lesser innovative ones.

We found also evidence to support Hypothesis 4,which related innovation to the financing solutions used, since the level of business R&D financing is much higher in countries with better innovative performance indicators.

The entrepreneurial efforts to develop in-house R&D and finance innovation in non-R&D activities were also a feature of the more innovative countries, together with the importance of collaboration among firms, thus, in accordance with Hypothesis 5.

The practical implications of this study suggest that to stimulate their innovative capacity, countries need a constant commitment to, and active involvement in, their institutions and organizations, the investment in education and qualification, values of openness and commitment to invest and collaborate.

This study presents some limitations to the comprehension of the micro mechanisms, which create innovation: a more detailed analysis of the effectiveness of several national innovative strategies. These limitations arise as a pathway for future research and appear to be of great interest to the embodiment of indicators about national and regional innovative strategy. This paper can be developed by enlarging the sample and considering other countries, such as the US and Japan, given their history regarding the innovative capacity.

Another field of future research could address the inclusion of micro level variables, to measure the real leveraging of firms present in countries with more innovative capacity. Our future studies will begin to tackle these challenges.

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Appendix.

Table 1a. Countries in the sample

EU	EU
BE	Belgium
BG	Bulgaria
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
EL	Greece
ES	Spain
FR	France
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom
HR	Croatia
TR	Turkey
IS	Iceland
NO	Norway
CH	Switzerland
RS	Serbia

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Microfinance And Micro & Small Enterprises (Mses) Survival In Nigeria - A Survival Analysis Approach

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Abstract - The main objective of this study is to examine the impact of microfinance on micro and small business survival in Nigeria. Data for the study are derived from both primary and secondary sources. First, a survey of MFB entrepreneur – clients was undertaken using simple random sampling technique to select our respondents; then, some data were extracted from the client's record with the Microfinance Banks (MFBs) on profit and sales. The data obtained were analysed using Kaplan Meier and Cox regression analysis. The findings revealed that micro financing enhance survival of Micro and Small Enterprises (MSEs) but most of the enterprises remain at the survival level of the business life cycle. We recommend that enterprise finance by MFBs should be linked up with larger financing window like the Small and Medium Enterprise Equity Investment Scheme (SMIEIS) fund or Strategic Partners like the commercial banks for expansion and growth funding after survival. We also recommend immediate recapitalization of the MFBs to enable them support MSEs adequately.

Cox-Regression, Kaplan-Meier, Micro & Small Enterprise (MSEs), Microfinance Banks (MFBs), Nigeria, Survival Analysis,

GJMBR-A Classification : FOR Code: 150203, 150205 JEL Code: G21, E17, G32

MICROFINANCE AND MICROSMALL ENTERPRISES MSESSURVIVAL IN NIGERIAA SURVIVAL ANALYSIS APPROACH

Strictly as per the compliance and regulations of:

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I. Introduction

Over the past three decades, particularly since its inception in Bangladesh thirty years ago, microfinance has been widely recognized as a powerful tool for alleviating poverty and enhancing entrepreneurial activities among the world's poorest communities, particularly women (Buttenheim, 2005). Models for microfinance provision have proliferated around the world; many are women-focused and use group-lending techniques to minimize risk and to develop and leverage social capital among borrowers. Various development approaches have been devised by policymakers, international development agencies, nongovernmental organizations, and others aimed at poverty reduction in developing countries. One of these strategies, which has become increasingly popular since the early 1990s, is the microfinance schemes, which provided financial services in the form of savings and credit opportunities to the working poor (Johnson & Rogaly, 1997).

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Micro and small enterprises (MSEs) are the backbone of many economies in Sub-Saharan Africa (SSA) and hold the key to possible revival of economic growth and the elimination of poverty on a sustainable basis. Despite the substantial role of the MSEs in SSA's economies, they are denied official support, particularly credit, from institutionalized financial service organizations that provide funds to businesses (Afrane, 2002). In many countries, people have relied on the mutually supportive and benefit-sharing nature of the social networking of the informal sector for the fulfilment of economic, social and cultural needs and the improvement of quality of life (Portes, 1998). Networks based on social capital exist in developed as well as developing countries including Nigeria. The inability of the SMEs to meet the standard set by the formal financial institutions for loan consideration provided a platform for informal institutions to attempt to fill the gap usually based on informal social networks; this is what gave birth to micro-financing.

A number of studies have been carried out on the impact of microfinance on entrepreneurial development. Some scholars focused on the mechanism by which poverty is reduced. Amin, Rai and Topa (2003) focus their article on the ability of microfinance to reach the poor and the vulnerable. They are of concern that microfinance is only serving people slightly below or above the poverty line, and that the really poor and destitute are being systematically excluded. Copestake, Bhalotra and Johnson (2001) analysed the impact of microfinance on firms and individual wellbeing. Copestake et al. (2001) focused on business performance and household income to establish a link between availability of microfinance and overall wellbeing of the poor. Similarly, Afraine (2002) reviewed impact of microfinance intervention programmes in two African Countries (Ghana & South Africa) testing the impact of microfinance on business incomes, access to life-enhancing facilities, and empowerment of the people, particularly women. Evans and Adams (1999) approach the microfinance from a different perspective; they seek to explain non participation in the microfinance evolution, stating that while microfinance is used as a viable tool to fight poverty, more than 75% of the poor individuals choose *not to participate for various reasons. Bekele and Zeleke*

(2008) examined the impact of iqqub scheme (a type of microfinance programme in Ethopia) on long term survival of micro, small and medium enterprises (MSMEs) in Ethiopia. Ryne and Holt (1994) provide a meta-analysis of microfinance and focuses on women empowerment, intending to show why various studies conflict in their conclusions as to the impact of microfinance on women empowerment. Park (2001) evaluates microfinance programmes in China using 3 key measurement variables (target, sustainability and overall impact). The above analysis shows increase participation both in research and practice of microfinance particularly the impact assessment. Despite increase activities in the sector, trend in research did not provide sufficient justification for the link between microfinance and entrepreneurial development in developing countries. Besides, empirical evidence emerging from various studies about the effect of microfinance on entrepreneurial development as a whole has so far yielded mixed results that are inconclusive and contradictory. Also, none trace the impact of microfinance on small business survival, except Bekele and Zeleke (2008), which was carried out in Ethopia. Moreover, the impact of microfinance on enterprise development has not received adequate research attention in Nigeria. Research also shows that most of the studies on impact of microfinance on enterprise development that have been reported were carried out in industrialized countries except some few cases in some African countries but none in Nigeria. This mean that there is a major gap in the relevant literature on developing countries particularly Nigeria which happen to be the most populated country in Sub-Saharan Africa (SSA).

This research attempts to fill this gap by examining the situation in Nigeria and providing empirical evidence on the effects of microfinance on enterprise survival in Nigeria. The importance of microfinance to entrepreneurial development made the Central Bank of Nigeria (CBN) to adopt microfinance as the main source of financing entrepreneurship in Nigeria. Despite this, access to finance is still considered as one of the major hindrances to entrepreneurial development in Nigeria (Ubom, 2003). Despite increasing number of government programmes and policies to encourage entrepreneurship in the country, Nigeria still rank as one of the poorest countries in the world with unemployment level rising everyday despite proliferation of small businesses as evidence in the annual report of the Corporate Affairs Commission (CAC). It becomes therefore necessary to undertake an assessment of the extent to which microfinance is impacting on enterprise survival in Nigeria. This is the overall objective of this paper. The specific objectives are to: (i) ascertain the survival time of micro and small business in Nigeria; (ii) ascertain if the survival time differs by sector (iii) examine the effects of micro-financing on micro and small business survival in Nigeria (iv) create the awareness that entrepreneurial activities require different method of financing at different stage of business development. In other to achieve the above stated objectives, the following research questions are advanced: (i) what is the survival time of micro and small enterprises in Nigeria? (ii) does the survival time differ by sector? (iii) to what extent can microfinance enhance the survival of micro and small enterprises in Nigeria? (iv) what are the microfinance factors that contributes to small business survival in Nigeria? The following null hypotheses are porposed and tested in the course of this study. (i) There is no significant different between survival time of micro and small enterprises in Nigeria. (ii). There is no significant difference between survival time of different sector of the Nigerian economy. (iii). Microfinance makes no significant contribution to the survival of micro and small enterprise in Nigeria. The rest of the paper is divided into four sections. In section II, relevant theoretical and Nigeria business environment are reviewed while the methodology of the study is explained in section III. The findings of this study are presented in section IV while section V contains the concluding remarks.

II. Theoretical Framework and Literature Review

Churchill and Lewis (1983) see growth as part of the natural evolution of a firm. They identified five stages of small business development as: existence, survival, success, take-off and resource maturity. Each stage is characterised by size, diversity, complexity, and the following management factors: managerial style, organizational structure extent of formal system, major strategic goal, and owner involvement. At the existence stage, the main problems are obtaining customers and delivering the product contracted for by them. At the survival stage, the firm has enough customers and is able to satisfy them. The main problem at this stage is managing the revenue and expenses of the organization to achieve a breakeven point. The organization is still simple at this stage; most of the supervision is carried out by the salesman or the foreman and not the entrepreneur any more. They described the success stage as a stage characterized by two possibilities, disengagement or growth. At the disengagement stage, the company is healthy but ceases to grow. The professional staffs come on board. This can be the last development stage and on for a long time. The other possibility at success stage is to strive towards growth - the entrepreneur marshals resources for growth. It becomes important to train managers to meet the need of the growing business. Once it has successfully passed through this stage, the company proceeds to the take-off stage, and the main focus here is on how to grow rapidly and how to finance that growth. The main concern at this stage bothers on delegation, transferring responsibility and controls from the entrepreneur to others in order to improve managerial effectiveness. At the resource maturity stage, the management is decentralized and the organization is adequately staffed. Systems are extensive and well developed. After this stage, two clear possibilities emerge: continued performance or suffocation.

The main focus of the work of Churchill and Lewis (1983) is in explaining further the success stage. At the success stage one of two things can happen; the owner/manager may maintain the present profit status quo by relying on internally generated fund for investment and essentially, maintain the status quo, or the owner manager may decide to grow the business; the owner consolidates the company and marshals resources for growth through the borrowing power of the company. In order words, he seeks for external loan in order to grow the company.

III. The Nigerian Business Environment

The Nigerian business environment offers many entrepreneurial opportunities. For this reason, several programmes and policies were put in place by both the Federal and State government to encourage entrepreneurial activities in the country. Notable among such programmes were the establishment of Industrial Development Centres across the country (1960-70), the Small Scale Industries Credit Guarantee Scheme (SSICS) 1971, specialized financial schemes through development financial institutions such as the Nigerian Industrial Development Bank (NIDB) 1964, Nigerian Bank for Commerce and Industry (NBCI) 1973, and the National Economic Recovery Fund (NERFUND) 1989. All of these institutions merged to form the Bank of Industry (BOI) in 2000. Also in 2000, Government also merged the Nigeria Agricultural Cooperative Bank (NACB), the People's Bank of Nigeria (PBN) and Family Economic Advancement Programme (FEAP) to form the Nigerian Agricultural Cooperative and Rural Development Bank Limited (NACRDB). The Bank was set up to enhance the provision of finance to the agricultural and rural sector. Government also facilitated and guaranteed external finance by the World Bank (including the SME I and SME II loan scheme) in 1989, and established the National Directorate of Employment (NDE) in 1986.

In 2003, the Small and Medium Enterprise Development Agency of Nigeria (SMEDAN), an umbrella agency to coordinate the development of the SME sector was established. In the same year, the National Credit Guarantee Scheme for SMEs to facilitate its access to credit without stringent collateral requirements was reorganised and the Entrepreneurship Development Programme was revived. Just like other goverment initiavive programme in the country, all the programmes failed to achive expected result in the SME sector. In 1999, the banks through its representatives 'the Banker's Committee' at its 246th annual general meeting held on December 21, 1999. The banks agreed to set aside 10% of their profit before tax (PBT) annually for equity investment in small and medium scale industries. The scheme aimed, among other things, to assist the establishment of new, viable SMI projects; thereby stimulating economic growth, and development of local technology, promoting indigenous entrepreneurship and generating employment. Timing of investment exit was fixed at minimum of 3 years. The fund was called Small and Medium Industries Equity Investment Scheme (SMIEIS) fund. The fund also failed due to slow utilization of the available fund. The thrust of controversy is in the desire of the Banks to acquire controlling shares in the funded enterprises and the entrepreneurs' resistance to submit control; also inability of the banks to adapt equity investment which is quite different from what the banks are familiar with in credit appraisal and management and lack of proper structure for effective administration of the scheme when it took off among other factors. The failure of all of these programmes put together necessitates the need for alternative financing window for SMEs in Nigeria. The Microfinance Policy Regulatory and Supervisory Framework (MPRSF) was launched in 2005. The policy among other things, addresses the problem of lack of access to credit by small business operators who do not have access to regular bank credits. It is also meant to strengthen the weak capacity of such entrepreneurs, and raise the capital base of microfinance institutions. The objective of the microfinance policy is to make financial services accessible to a large segment of the potentially productive Nigerian population, which have had little or no access to financial services and empower them to contribute to rural transformation.

IV. Conceptual Issues in Microfinance

Microfinance evolved as an economic development approach intended to benefit low income men and women. The term refers to the provision of financial services to low income clients, including the self employed. Financial services generally include savings and credit; however, some microfinance institutions provide insurance and payment services. In addition to financial intermediation, many microfinance institutions provide other non financial services such as advisory services, health talk, pre-loan training, financial management training and provides platform social network. Microfinance clients are typically self – employed, low income entrepreneurs in both urban and rural areas. Clients are often traders, street vendors, small farmers, artisans and small scale producers such as black smiths, seamstresses, brick makers and furniture makers (Ojo, 2003). Ehigiamusoe (2005), describe microfinance as "flexible processes and structures by which financial services are delivered to owners of microfinance enterprise on a sustainable basis". Microfinance recognizes the peculiar challenges of micro enterprises and of their owners. It recognizes the inability of the poor to provide tangible collateral and therefore promotes social capital as collateral substitution.

Disbursement and repayment are structured to suit credit need and cash flow pattern of small businesses (Aderibigbe, 2001). Kimotha (2005) defined microfinance simply as the provision of very small loans (micro – credit) to the poor, to help them engage in new productive business activities and/or to grow/expand existing ones. However, overtime, microfinance has come to include a broader range of services. These include mainly credit, savings opportunities, insurance and money transfer, as practitioners came to realize that the poor, who lacked access to traditional formal financial institution, needed and required a variety of financial products to achieve meaningful improvement in their business activities. USAID (2005) explained that microcredit is commonly defined in terms of loan amount as a percentage of average per capita income. In the context of Nigeria, with a per capita GDP of N42,000 (about $300) in 2003, loans up to N50,000 (around $350) will be regarded as micro loans, while Micro savings are defined as savings accounts with a balance of less than N8,400 (about $50), that is less than 20% of the average annual income per capita. While microfinance refers to loans, savings opportunities, insurance, money transfers and other financial products targeted at the poor, micro-credit refers specially to small loans. The average loan size varies from country to country, but in most cases, the average loan is equivalent to $120.0 – 150.0 in the respective currency. For example, in Philippines, the average loan size is $124.0. (Iganiga, 2008).

V. Research Methodology

The multiple-method strategy was adopted for this study. The study was designed to combine primary survey based data with secondary information extracted from the customers' record with the bank over five year period. At every point a customer gets a new loan, record of the customers' changes in sales, profit and asset are kept by the banks to monitor the customer progress. The purpose of extracting such data is to obtain cross-referencing data and some independent confirmation of data, as well as a range of opinions. The panel data, that is the combination of primary and secondary longitudinal data already taken by the banks give a better perspective on the client/customers profile over a period of time and make better judgment possible. The theoretical population of the study consists of the entire MSEs in the country. However, the study was restricted to South-West geopolitical zone comprising of six states, the states are Lagos, Ogun, Osun, Oyo, Ondo and Ekiti states. The choice of South-west stems from the fact that the concentration and the predominance of MSEs in this zone are easily identifiable particularly with the inclusion of Lagos state which is the commercial centre of the nation. For effective coverage and lower cost, judgemental sampling technique was used to select the participating MSEs, this is because certain criteria were set and that is, continuous participation in microfinance programme for a period of five years. Only MSEs who are able to meet this criteria form our sample frame. A simple random sampling technique was used to select a total of 623 entrepreneurs that constituted our sample size. The sample size was determined using Bartlett, Kotrlik and Haggins (2001) model for determining the minimum returned sample size for any given population. The primary data consists of a number of items in well structured questionnaire that was administered to and completed by the respondents. The decision to structure the questionnaire is predicated on the need to reduce variability in the meaning possessed by the questions as a way of ensuring comparability of responses. To ensure the validity and reliability of the questionnaire used for the study, experts in the field of microfinance were consulted to look at the questionnaire items in relation to its ability to achieve the stated objectives of the research, level of coverage, comprehensibility, logicality and suitability for prospective respondents. A pilot test which took the form of test –retest method was conducted prior to the actual study. Data collected from the questionnaire were analysed using Kaplan Meier and Cos regression analysis.

A total of 274 copies of the questionnaire, representing 44% of the total sample size were administered in Lagos State. In Ogun State, a total of 106 copies of the questionnaire were distributed, representing 17% of the sample size. In Oyo 96 (representing 15%) were distributed, in Osun State, 88 copies of the questionnaire were distributed representing 14% of the total sample. In Ekiti and Ondo States 26 and 33 copies of questionnaire were distributed respectively, representing 4% and 5% respectively of the total sample size. The questionnaires were distributed using the geographical spread of microfinance bank in South-west geopolitical zone. In all, a total of 502 copies of the questionnaire were returned from the six States out of 623 copies administered. This represents a total response rate of 80.5%. The high return rate achieved from the field survey can be attributed to the support received from the loan/field officers in the banks visited. A total of 106 Microfinance Banks were used for the study and the copies of questionnaire were distributed at an average of six (6) copies of questionnaire per Bank.

The duration of survival of businesses was measured for each of the 502 enterprises in the study using five year business summary linked with survey data, starting from January 2004 and terminating at December 2008. Firms that were still operational and active at the end of the period December 2008 were considered censored. Censoring implies that the time to the event (in this case death) has not occurred. That is they are still active businesses at the end of the study period. The total censored businesses were 457 while 45 were not censored. The businesses not censored are businesses researcher could not obtain data from bank record, particularly towards the end of the study period on micro credit and micro-savings in 2007 and 2008. Survival time is defined as the number of years of operation between 01 January 2004 and the date of last data obtained, December 2008.

a) *Model Specification*

The model specification used in this study was based on hypothesis of the study. This statistical model is presented below to examine the extent to which micro finance facilities have enhanced the survival of micro and small enterprise (SMEs) in Nigeria. The model adopted for this study was developed from the work of Bekele and Zeleke (2008) they identified six key predictors of small business survival for microfinance bank users as; ability to convert profit to investment, past bankruptcy, entrepreneur level of education, participation in microfinance, ability to make profit and managerial ability. Consequently, five of the variables were adopted as ultimate predictors of small business survival, together with easy access to microcredit, contact with lender/ loan officers, and mandatory savings, while we remove past bankruptcy. The survival analysis examines the relationship of the survival distribution to covariates. It entails the specification of a linear–like model for the log hazard. Kauffman and Wang (2001, 2003) specified Cox survival model using industry specific characteristics, firm specific characteristics and e-commerce specific characteristics as the covariates in a model specified as follows;

$$\mathrm{Logh0(t)} = \alpha + \beta 1xi1(t) + \beta 2xi2(t) + \ldots + \beta Kxik \quad \ldots\ldots\ldots\ldots \quad (1)$$

Where;

X takes the form of X1….X12. The same model was adopted in this study with a little modification to include financing method as part of the covariate removing e-commerce variable. Hence it was specified as follows;

$$\mathrm{Logh0(t)} = \alpha(t) + \beta 1Xi1 + \beta 2Xi2 + \beta 3Xi3 + \beta 4Xi4 + \beta 5Xi5 + \beta 6Xi6 + \beta 7Xi7 + \beta 8Xi8 + u1 \quad \ldots\ldots\ldots\ldots \quad (2)$$

Where;

i is a subscript for observation

Xs' are the covariates

α is a constant that represents the log baseline and

Log h0(t) takes a binary form, 1 if the event occurs and 0 if the event does not occur

β = is the vector of parameters to be estimated.

The predictor variables are given as X1, X2, X3, X4, X5, X6, X7, and X8;

Where X1, = Regular participation in Microfinance, X2, = Ability to convert profits into investment, X3, = Ability to make profit, X4, = Entrepreneur level of education, X5 = Technical capacity, X6 = Contact with loan officer, X7 = Access to microcredit, X8 = Mandatory micro savings

VI. Result and Discussion

a) *Result Analysis*

i. *Kaplan –Meier Survival Analysis Estimate*

Kaplan-Meier survival probability estimates and plots were used to compare the survival time of businesses with regard to participation in microfinance programmes. Tables 1 (see appendix) shows that small scale enterprises have higher survival time of 4.82 years while micro enterprises have survival time of 4.42 years. Survival time for the total sample is 4.53 years with strong association with participation in microfinance programme. The significance of the estimate was tested using three diagnostic tests. Table 2 (See appendix) shows that the result of the three tests, Log rank, Breslow (generalized wilcoxon) and Terone Ware are all significant at 1%. The result implies that there is strong evidence to show that there is statistical difference between the survival time for micro and small enterprises in Nigeria.

ii. *Kaplan Meier Survival Estimate by Kind ofBusiness*

Table 3 (see appendix) shows Kaplan-Meier survival probability estimate by sector. The table shows that service sector has the highest time of survival of 4.67 years. The second highest survival time is agriculture sector with 4.64 years. The third highest survival probability is the trading sector with survival probability of 4.59 years, followed by the artisans with survival probability of 4.36 years. And lastly, the manufacturing sector has the least survival probability of 4.18 years. The result obtained is expected. It simply implies that microfinance is not the most appropriate method of financing manufacturing business in Nigeria. Firm level analysis has shown that micro financing mostly suit service and retail businesses because they require relatively less capital and constitutes the majority of new firms, they thrive in rather risky conditions, and their survival is based on their ability to generate enough profit. Agricultural businesses have shown a relatively better survival rates than trading and artisans, this is probably because most of the agricultural businesses are based on group lending. Overall survival probability for enterprise finance by Microfinance Bank is 4.53 years. Tables 4 (see appendix) shows the result of the three overall diagonistic test of Log rank, Breslow (generalized wilcoxon) and Terone Ware. They are all significant at 1%. This implies that there is strong evidence to show that survival time among the five sectors (that is trading, manufacturing, artisans, agriculture and service) is statistically different.

iii. *Adjusted Hazard Ratio from Cox Proportional Hazard Model Variables in the Equation*

Table 5 (see appendix) shows hazard ratios estimated from Cox regression. The Table shows that the survival of businesses finance by MFB is most strongly influenced by 8 predictor variables used for survival analysis. These 8 influential variables are; ability to generate profits, ability to convert profits back into investment, easy access to micro credit, adequate technical capacity, regular contact with lender/loan officers, entrepreneur level of education, regular participation in micro finance programmes, and mandatory micro savings. The most influential predictor variable affecting the survival of businesses is the ability to generate profits on a sustainable basis. Table 5 shows ability to generate profits regularly and easy access to micro credit as the top two prominent predictor variables of survival in our estimated equation. However, based on the Pearson chi-square test of association, both predictor variables are significantly associated with regular participation in microfinance (p 0.001). This shows clearly that the significance of the top two predictor variables is attributed to regular participation in micro finance programme.

This study shows that regular participation in microfinance and regular contact with loan officers are commonly used strategies for accumulating savings, making profits, and ultimately converting capital back into investments. The hazard ratio of the variable no regular participation in micro finance is 1.10. This shows that businesses that do not participate regularly in micro finance are 1.10 times more likely to fail in comparison with businesses that participate regularly in microfinance programme. The hazard ratio of the variable no conversion of profits into investments is 1.88. This shows that businesses that do not have the capacity to convert profits generated into profitable investments for the enterprise are 1.88 times more likely to fail in comparison with businesses that have the capacity to convert profits made into profitable investments. The hazard ratio of the variable ability to generate profits is 7.50. This shows that businesses that failed to generate profits regularly are 7.50 times likely to fail in comparison to businesses that generate profits. The hazard ratio of low technical capacity is 3.08. This shows that businesses with low technical capacity are 3.08 times likely to fail compare to business with high technical capacity. The hazard ratio of no regular contact with loan officers is 4.73. This shows that businesses with no regular contact with their loan officer are 4.73 times likely to fail compared to businesses that have regular contact with their loan officer. The hazard ratios for businesses that are operated by owners with low levels of education are 3.30 times more likely to fail in comparison with businesses that are operated by owners with a moderate level of education. This implies that formal education is positively correlated with small business survival. The hazard ratio of the variable, no easy access to micro credit is 7.47. This shows that businesses that do not easily access micro credit are 7.47 times more likely to fail than businesses that can easily access micro credit. And lastly, the hazard ratio for the variable, no mandatory savings is 2.76. This shows that businesses that do not participate in mandatory savings are 2.76 times more likely to fail than businesses that are involved in mandatory savings.

The key objective of this aspect of the study is to test the ability of microfinance to enhance small business survival and to identify influential variables that affect the survival of micro and small enterprises (MSEs), particularly assessing the degree of importance of participation in microfinance for promoting viability and long term survival of micro and small enterprises. Each of the 8 predictor variables in Table 5 is highly significant at the 5% level of significance.

Table 6, (see appendix) shows a summary of results obtained for the estimated equation. The log likelihood of 101.493 is high and significant at 5%. Hence we conclude that microfinance enhance survival of small businesses finance by Microfinance Banks in Nigeria.

VII. Findings, Conclusion & Recommendations

The main finding of this study is that 90% of MSEs financed by MFBs with track record of regular participation and easy access to micro credit survived up to 4 ½ years in South-West Nigeria. This new result strengthens the argument that MFBs contribute significantly to MSEs survival rate in Nigeria.

Also, the finding from the study revealed that the likelihood of survival of small firms' increases provided the small firms are able to generate profit regularly, have easy access to micro credit and convert profits back into investments. Hence, the level of investments that is made through the partial conversion of profit into investment enables us to relate the survival of small firms to ability to make profits and convert such profit into viable investments. The ability to generate profits regularly aids small firm decision to expand by hiring quality staff which will enhance the growth of the firm. Once growth is feasible, the firm is gradually moving past survival level, but it all depends on what the firm does with the profits generated. Conversion of profits back into investments is shown to be positively correlated with small business survival and has the potential to ease investment capital and liquidity constraints in business operation. Generation of profits and their conversion into profitable investments are two variables that drive firm growth and survival. In this regard, mandatory savings encourage entrepreneurs to save, which regular participation in microfinance promotes.

The study also shows that formal education has positive impacts on the ability of business owners and operators to conduct business efficiently. The study has shown that a high level of education is indeed a significant factor in increasing operational efficiency, profitability and success of businesses by enabling owners or operators to take calculated risk and arrive at strategically important business decisions at a cost reasonable for the enterprise. It also determines the amount the entrepreneur is able to raise at start up as well (Makasure, 2008). Evidence from the study shows that 81% of businesses whose founder have some form of formal education survived and were very active in business. Only 19% of those without formal education survived. It is unfortunate that the content of the curriculum for vocational training in Nigerian does not prepare potential entrepreneurs adequately for career path in entrepreneurship (Amana, 2003). This constitutes a major obstacle to the growth and development of MSMEs in Nigeria. Technical capacity is also shown to have a significant influence over long term survival of MSEs. This finding is in agreement with the submission of Orji (2006) in which it was reported that successful businesses and enterprises are characterized by owners and operators who are able to demonstrate high technical capacity. Technical capacity could be assessed in terms of ability to adapt to new technology, regular technology related training, application of information and technology, introducing appropriate technologies and expertise, acquiring innovative business skills from rival firms, and staff training in technology. The study also shows that profitability is a key predictor of viability and long term survival. Profitable businesses and enterprises have demonstrated their capacity to survive in competitive environments. In this study, estimated profit was extracted from the customer's record with the bank. This study has shown that the likelihood of firm survival is affected by profitability and circumstances related to profitability at the market place. Successful businesses are significantly associated with the ability to generate profit on a sustainable basis.

Easy access to micro credit is significantly associated with small business survival. Easy access to microfinance is closely associated with regular contact with lender/field/loan officer and regular participation in micro finance. Regular participation in micro finance activities such as the training session, regular meeting and networking meetings shows the clients commitment to MFB programme, and this enables the client to build good relationships with the loan officer, which eventually culminate into easy access to micro credit. The appropriateness of loan size, proper utilization of loan given and a good repayment plan schedule are the factors that make micro credit worthwhile for small business operators.

VIII. Conclusion and Recommendations

Just like in other parts of the world, entrepreneurs in the small and micro sub-sector of the Nigerian economy require access to finance in order for their businesses to thrive on a sustainable basis. Results from this study show that both financial and non-financial services obtained from MFBs have highly benefited MSEs in Nigeria and have facilitated the sharing of business skills and innovative ideas, and have alleviated the acute shortage of finance to an extent. The policy implication of this study is that micro financing contributes significantly to an enhanced entrepreneurial environment by making the business environment more conducive to small businesses. But small businesses in Nigeria remain at the survival stage of small business development, many of them find it difficult to move to the growth level, the capacity of MFB to finance their growth through investment in technology and asset is in doubt but those are areas for further research. But it is obvious many MSEs are not growing to an extent where they can create sufficient jobs for workers and produce goods for consumers, neither are they making any impact in the international scene nor contributing meaningfully to economic development in Nigeria.

The gap left wide open by formal money lending institutions has been partially filled by micro financing institutions. But there is strong evidence to believe that even the microfinance can only enhance survival of small businesses but not a suitable method of financing for growth and expansion. Contrary to formal money lending institutions, participation in micro finance schemes provides incentive for group members to save, work harder, share business skills and innovative ideas, and utilize scarce resources optimally. The MFBs serve members as a source of financial and social support, but their financial capacity is limited. As a result, users of the banks remain at the survival level incapable of moving to the next stage of business development. Many scholars such as Ojo (2003) and Bekele and Zeleke (2008) have argued that it is prudent to integrate microfinance with other financing window available such as strategic partners or commercial banks. Integration is mutually beneficial to both parties as it broadens the market base of the commercial banks while providing MSEs with easy access to finance at the same time. This implies that the social capital feature of the banks can help formal financial sectors to expand their lending base at a lesser cost, while MFBs can provide banks with access to a large number of clients with an adequate information base and a collective collateral guarantee.

Collective collateral guarantee enables MFBs to overcome the risk of default, and reduces the high cost of advancing a series of small credits to a large number of MSE operators. The fact that high percentage of MSEs that participated in micro-financing survived shows that it is worthwhile to integrate microfinance schemes with formal financial institutions in order to increase the capacity of MFBs so that they can enlarge their outreach capacity. A robust and positive relationship between participation in micro financing and the survival of MSEs has a strong policy implication on designing support strategies for small businesses and enterprises in Nigeria. Intervention programmes designed for alleviating poverty and promoting small enterprises in Nigeria should use MFBs as a vehicle by having them connected with the bigger formal financial sector. We also recommend recapitalization of MFBs in Nigeria to enable them support MSEs growth adequately. Also, the banks should employ relationship-based financing rather than insisting on a solid business plan only, particularly since regular contact with lender is found to have positive impact on MSEs survival. And Government should establish relevant well adapted and appropriately structured institutions and organizations to provide support for MSEs in such aspect as; procurement, supply and distribution of raw material, supply of local/imported machines for use on concessional terms, training in several technical grades, and create favourable market conditions. They should also set up Tool Design Institute and Testing Centres for raw materials and produced goods/service institute as earlier suggested by Ojo (2006).

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Appendix

Table 1 : Kaplan Meier Survival Estimate by Category
Means and Medians for Survival Time

Category	Mean(a)				Median			
			95% Confidence Interval				95% Confidence Interval	
	Estimate	Std. Error	Lower Bound	Upper Bound	Estimate	Std. Error	Lower Bound	Upper Bound
Micro Enterprise	4.423	.055	4.316	4.530	5.000	.008	4.984	5.016
Small Scale Enterprise	4.820	.053	4.716	4.925	5.000	.015	4.970	5.030
Overall	4.530	.043	4.445	4.615	5.000	.006	4.988	5.012

a Estimation is limited to the largest survival time if it is censored.

Table 2 : Diagonistic Test Kaplan Meier Estimate
Overall Comparisons

	Chi-Square	Df	Sig.
Log Rank (Mantel-Cox)	11.204	1	.001
Breslow (Generalized Wilcoxon)	12.592	1	.000
Tarone-Ware	11.946	1	.001

Test of equality of survival distributions for the different levels of Category.

Table 3 : Kaplan Meier Survival Estimate by Kind of Business
Means and Medians for Survival Time

Kind of Business	Mean(a)				Median			
			95% Confidence Interval		Estimate	Std. Error	95% Confidence Interval	
	Estimate	Std. Error	Lower Bound	Upper Bound	Lower Bound	Upper Bound	Lower Bound	Upper Bound
Trading	4.599	.059	4.484	4.714	5.000	.020	4.961	5.039
Artisans	4.365	.123	4.123	4.606	5.000	.029	4.943	5.057
Manufacturing	4.189	.155	3.886	4.492	5.000	.016	4.968	5.032

Agriculture	4.644	.092	4.464	4.825	5.000	.020	4.960	5.040
Service	4.679	.124	4.437	4.921	5.000	.041	4.920	5.080
Overall	4.530	.043	4.445	4.615	5.000	.006	4.988	5.012

a Estimation is limited to the largest survival time if it is censored.

Table 4 : Diagonistic Test Kaplan Meier Estimate by Kind of Business
Overall Comparisons

	Chi-Square	Df	Sig.
Log Rank (Mantel-Cox)	13.512	5	.019
Breslow (Generalized Wilcoxon)	13.888	5	.016
Tarone-Ware	13.731	5	.017

Test of equality of survival distributions for the different levels of Kind of Business.

Table 5 : Adjusted Hazard Ratios from Cox Proportional Hazard Model
Variables in the Equation

							Exp(B)	95.0% CI for Exp (B)	
Predictor Variables	B	SE	Wald	t-value	df	Sig.	Hazard Ratio	Lower	Upper
No Regular Participation in Microfinance	.098	.025	3.779	3.920	1	.000	1.102	3.450	9.162
No Conversion of profit to investment	.633	.222	3.796	2.851	1	.002	1.883	2.225	7.781
No regular profit	2.105	.376	7.300	5.359	1	.021	7.500	1.133	7.154
Low technical Capacity	1.126	.343	.134	3.283	1	.000	3.083	2.243	8.141
No Regular Contact with Lender/Loan officer	1.555	.391	.158	3.976	1	.006	4.735	1.810	7.164
Low Entrepreneur level of Education	1.196	.296	8.774	4.446	1	.003	3.307	2.245	7.550
No access to Micro-credit	2.011	.224	1.067	8.978	1	.031	7.471	1.778	6.066
No Mandatory Micro-savings	1.016	.210	.006	4.838	1	.001	2.762	2.073	8.711

Source: Authors' computations from study sample

Table 6 : Overall Statistics for Cox Regression
Omnibus Tests of Model Coefficients(a,b)

-2 Log Likelihood	Overall (score)			Change From Previous Step			Change From Previous Block		
Chi-square	Df	Sig.	Chi-square	df	Sig.	Chi-square	Df	Sig.	Chi-square
101.493	29.347	.002	11	29.463	.002	11	29.463	.002	11

a Beginning Block Number 0, initial Log Likelihood function: -2 Log likelihood: 130.956
b Beginning Block Number 1. Method = Enter

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Revisiting WACC

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Abstract - The paper compares classic WACC valuation method with equity cash flow and capital cash flow methods. As WACC method always use market values of debt and equity to determine weights, the method can give erroneous results whenever there are mismatches in the market valuation of debt. The tax-shield benefits are related to the actual interest amount that is based on the book value and therefore, the WACC computation method need to account tax shield benefits using book values. The paper used an example to compare valuation of a project using various valuation methods and found that the net present value obtained using modified version of the WACC, that used book value of debt to account tax shield, was comparable to other methods.

Keywords : Cash Flow Discounting, Cost of Capital, Net Present Value, WACC

GJMBR-A Classification : FOR Code: 150205, 150105, 150106 JEL Code: G31, G32

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I. Introduction

To assess the value of a project or business, a number of cash flow valuation methods are used. The most common method to value the business is to determine free cash flow to the business and discount the cash flows by weighted average cost of capital (WACC). Though the method is quite popular and used since mid of last century, the method do not accurately measure effects of interest tax shields benefits whenever market value of debt differs substantially from its book value and therefore valuing of a project using the classic WACC method is not always correct. This distortion is apparent when the same project is valued using other valuation methods.

The accuracy of ascertaining discounting rate is important as a small change in this single estimate alters the Net present Value (NPV) measure of the project in a significant manner. The use of classic WACC formula may often present an optimistic NPV and consequently lead to a wrong investment decision. In this paper the WACC method of valuing cash flows is compared with the method of valuing a project from cash flow accruing to equity holders and capital cash flow (CCF) method proposed by Rubeck (2002). It was found that a minor adjustment in WACC computation method will make valuation using all the methods identical.

II. WACC

From the seminal contribution of Modigliani and Miller (1958), finance theory has accepted that a project's cash-flows should be discounted at a rate that reflects the project's risk characteristics. Whenever a company's equity structure consists of both equity and debt, the appropriate discounting rate is weighted average cost of capital (WACC).

WACC method is the most popular approach used to value a project by discounting its unlevered cash flows using a weighted average after tax cost of capital. It is assumed that the project is fully financed by equity and therefore tax liability is estimated on earning before interest payment. The net asset value (NPV) for a constant perpetual cash flow of the project is measured as follows:

$$NPV = \sum_{t=1}^{n} \frac{FCF_t}{(1+r_{wacc})^t} - I$$

Where FCF is free cash flow, I is the initial investment from the project and rwacc is the weighted average cost of capital.

When the project is financed with both debt and equity, the interest expense qualifies for tax exemption and reduces effective cost of debt. The benefit of tax shield is incorporated in the discounting rate by multiplying a factor (1-tax rate) to the cost debt. The effective cost of debt after tax is thus reduced to account for tax benefit available for interest expense. The usual formula to estimate WACC is given below:

$$r_{wacc} = \frac{E_{mv}.r_e + D_{mv}.(1-T).r_d}{E_{mv} + D_{mv}}$$

Where :

r_{wacc} = weighted average cost of capital
E_{mv} = market value of equity
D_{mv} = market value of debt
r_e = cost of equity capital
r_d = cost of debt capital
T = tax rate

According to the formula, the weighted average cost of capital embodies the relative proportion of debt and equity supplied by investors at the respective required rates of return. The cost of debt capital depends on a company's outstanding interest bearing debt. Since interest expense qualifies for a tax deduction, the formula captures the cost of debt at the company's effective tax rate. The WACC approach incorporates all financing considerations in a single discount rate and simplifies decision making.

In the formula, market values of equity and debt are taken instead of their book values. The market value of the company's equity can be obtained from stock price quotes. The market value of debt capital can be estimated by considering cash flow accruing to debt holders and the market interest rate.

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III. CASH FLOW MEASURES

In the paper following three cash flow estimates are discussed:

- Free Cash Flow
- Cash flow to Equity
- Capital Cash Flows

a) Free Cash Flow

The value of a business is equal to the discounted value of future cash flows. The free cash flows (FCF) to the business equal the cash flow generated by the project during its life less capital invested in the business. The free cash flow of the firm includes the cash flows available to all investors – equity holders and bond holders. Thus free cash flow is independent of capital structure of the business.

The simplest route to measure free cash flow to the firm is to use information available in the income statement of the firm. From the earning before interest and tax (EBIT) the non cash expense of depreciation is added, taxes are deducted and net cash flows on account of new investments in assets and working capital are also deducted.

FCF = EBIT (1 - tax rate) + Depreciation - Capital Expenditure - Δ Working Capital

In the above formula, payments to debt holders are not considered; therefore the estimate is a measure of for unlevered cash flow. Since leverage is not accounted, the tax benefits because of interest payments are also excluded. It is therefore necessary to consider the tax benefits on interest tax shields in the discounting rate.

The discount rate for FCF need to represent rates of return required by both equity holders and bond holders blended together. It is a single estimate of opportunity cost of capital for the whole business.

b) Capital Cash Flows

In capital cash flow (CCF) method, the cash flow includes the cash available to all capital providers, including the interest tax shields. The interest tax shields decrease taxable income; decrease taxes and thereby increase after-tax cash flows. Thus capital cash flows is equal to the total cash flows available to both equity holders and bond holders including interest tax shield benefits accruing to equity holders.

Capital Cash Flow = Free Cash Flow + Interest Tax Shield

Since tax shield benefits are included in the cash flow estimates, the taxes are not again counted in the denominator. The discount rate to value Capital Cash Flows (CCF) is a before-tax weighted average rate.

$$r_{ccf} = \frac{E_{mv}.r_e + D_{mv}.r_d}{E_{mv} + D_{mv}}$$

Where :

r_{ccf} = weighted average cost of capital
E_{mv} = market value of equity
D_{mv} = market value of debt
r_e = cost of equity capital
r_d = cost of debt capital

The Free Cash Flow and Capital Cash Flow methods treat interest tax shields differently. In the first method, the tax shield is considered in the discounting rate rwacc and in the second case it is included in the cash flow. As per Ruback (2002), when debt is forecasted in dollar amounts or when capital structure changes over time, the CCF method is easier to use as the interest tax shields are a part of the cash flows. In the method, the expected return from the asset depends on the risk involved in the asset and therefore it is independent of changes in the capital structure. Consequently, the discount rate for the capital cash flows need not be re-estimated every period.

Ruback (2002) also showed that under certain assumption, the before tax WACC depends only on the market-wide parameters for the risk-free rate, the risk premium and on the unlevered asset beta.

$$r_{wacc(before tax)} = r_{risk\ free} + \beta_{unlevered} R_p$$

Where R_p is the risk premium and $\beta_{unlevered}$ is unlevered asset beta of the firm.

In the formula the market values of equity and debt are not required for estimating the discounting rate. This reduces the complexity of estimating WACC for every period.

Though Ruback's method of measuring discount rate apparently does not depend on capital structure of the company and need not be estimated afresh as capital structure changes, the main implementation problem is to find out future values of risk premium.

c) Cash flow to Equity

In some instances financial cash flow statements are prepared from two points of view:

1. The total investment point of view and
2. The owner's point of view.

The WACC and CCF method values the project from total investment point of view. However, it is also sometimes useful to analyze a project by constructing the cash flow statements from different points of view to establish whether the parties involved will find it worthwhile to execute the project. Cash flow to equity method value the business from the perspective of equity holders claims in the cash flows. cash flow to the firm measures the cash flow available to all investors but cash flow to equity is a measure to find out what is left over (the residual) for the equity holders. It estimates the residual cash flow available to equity holders of the firm after payments were made to other stakeholders.

Cash Flow to Equity = Free Cash Flow – Interest and Debt Repayments

In the method, the suitable discount rate is shareholders required rate of return (r_e) and not r_{wacc}.

IV. Problems Associated with WACC

According to theory, companies should value a project using a discount rate determined by the risk characteristics of the project. Discounting the cash flows at the firm's weighted average cost of capital (WACC) is the most popular but the method is sometimes inappropriate if the project differs in terms of its risk-ness from the rest of the firm's assets. Thus WACC need to be calculated separately for each project. A survey carried out by Bierman (1993) in the top 100 firms of the Fortune 500 found that 93% of the responding firms use a constant company-wide WACC to value projects and only 35% used division-level discount rates. Graham and Harvey (2001) reported that a large majority of firms use a common company-wide discount rate to value a project independently of the risk characteristics of the project. Another survey carried out by Kruger et al (2011) found that performing capital-budgeting using a unique firm-level WACC is common.

Additionally, risks involved in project cash flows are not always amenable to be measured with a constant discounting rate. The discounting rate r_{wacc} changes when debt to equity ratio of the firm changes on year to year basis. Miles & Ezzel (1980) showed that the WACC will yield correct valuations if the leverage ratio of the firm remains constant through time. WACC method is suitable as long as the firm maintains a constant leverage ratio. For project that need subsequent additional investment in future, maintaining constant debt to equity ratio is difficult.

In WACC, the values of equity and debt are taken in terms of market values, not at their book values. As market values of both equity and debt constantly changes, the WACC measure also changes with change in market perceptions. In many instances, the cash flows are discounted at a constant WACC and all such cases the implicit assumption is that the leverage of the business remains constant throughout the evaluation period. But the assumption is erroneous as maintaining constant debt equity ratio based on market value is not practicable. The WACC must be adjusted in every period to accommodate change in capital structure on market value.

Further, the measure provides little guidance when tax structure also changes with time.

Should WACC be always measured on market Value?

While estimating discounting rates for WACC and CCF methods, market values of equity and debt are used. In case of rwacc interest tax shields are incorporated in the discount rate in terms of market value of debt by application of the factor . On the other hand, the actual interest tax shield benefit is linked to actual interest paid that is related to the book value of debt. Thus interest tax shield need to be measured on book value and not on market value of debt. Whenever there is a valuation mismatch between book value and market value of debt, it is better to use book value of debt as interest tax shield is related to book value and not on market value. Fernandez (2003, 2010) argued that the WACC is the rate at which the Free Cash Flows need to be discounted for obtaining the identical result as in the valuation using Equity Cash Flows.

To obtain identical valuation using rwacc the formula to estimate the discounting rate need to be modified as follows:

$$r_{wacc(modified)} = \frac{E_{mv}r_e + D_{mv}r_{debt} - D_{bv}.r_{actual}.T}{E_{mv} + D_{mv}}$$

E_{mv} and D_{mv} are market values of debt and equity, D_{bv} is the book value of debt and r_{actual} is the interest rate payable on outstanding debt.

V. Valuation Example

So far three methods using free cash flows, capital cash flows and equity cash flows are discussed and all methods are found intuitively appealing! Let's now compare valuation using a simple numerical example.

The projected balance sheets and income statements of a hypothetical firm are given in table 1 and 2. The firm made an initial equity investment of $5500 at the beginning of the project and all incremental investment in the business was raised from additional debt. The projected income statements gave estimates for the initial five years and it was assumed that the cash flows after the initial five years would grow at 5% per year for perpetuity.

Table 1 : Projected Balance Sheet

Year	0	1	2	3	4	5
Equity	5500	5500	5500	5500	5500	5500
Debt	5500	5775	6050	6325	6600	6875
Total Liabilities	11000	11275	11550	11825	12100	12375

Gross Fixed Assets	8250	9900	11550	13200	14850	16500
Less Accumulated Depreciation	0	1650	3300	4950	6600	8250
Net Fixed Assets	8250	8250	8250	8250	8250	8250
Working Capital	2750	3025	3300	3575	3850	4125
Total Assets	11000	11275	11550	11825	12100	12375

Table 2 : Projected Income Statement

Year		1	2	3	4	5
Revenue		10000	15000	17500	20000	22500
Expenses		-8000	-12000	-14000	-16000	-18000
EBITDA		2000	3000	3500	4000	4500
Interest Payments		440	462	484	506	528
Depreciation		1650	1650	1650	1650	1650
Profit Before Tax		-90	888	1366	1844	2322
Tax		-31.5	310.8	478.1	645.4	812.7
Profit After Tax		-58.5	577.2	887.9	1198.6	1509.3

a) Cash Flow Statements

The following cash flow estimates were made.

- Free Cash Flow
- Equity Cash Flow
- Debt Cash Flow
- Capital Cash Flow

To arrive at free cash flow estimates, the PAT (unlevered) was calculated assuming no debt in the capital structure. From PAT (unlevered) depreciation is added back, additional investment in working capital and fixed assets are deducted. Equity cash flows were estimated considering actual leverage in capital structure. It was estimated from PAT adding depreciation and deducting additional investments.

Debt cash flow measures represented cash flows accrued to debt holders both in form of interest income and change in the principal component of debt. Whenever new debt was added to the capital of a firm, cash flows in hands of debt holders reduced. Capital cash flow was measured adding cash flows accrued to both shareholders and bond holders.

Table 3 : Cash Flow Statements

Free Cash Flow (FCF)

Year		1	2	3	4	5
EBITDA		2000	3000	3500	4000	4500
less depreciation		-1650	-1650	-1650	-1650	-1650
EBIT		350	1350	1850	2350	2850
Tax @40%		122.5	472.5	647.5	822.5	997.5
PAT (unlevered)		227.5	877.5	1202.5	1527.5	1852.5
add Depreciation		1650	1650	1650	1650	1650

less increase in WC		-275	-275	-275	-275	-275
less increase in Gross Fixed Assets		-1650	-1650	-1650	-1650	-1650
FCF		-47.5	602.5	927.5	1252.5	1577.5

Equity Cash Flow (ECF)

Year		1	2	3	4	5
Profit After Tax		-58.5	577.2	887.9	1198.6	1509.3
add Depreciation		1650	1650	1650	1650	1650
add increase in Debt		275	275	275	275	275
less increase in WC		-275	-275	-275	-275	-275
less increase in Gross Fixed Assets		-1650	-1650	-1650	-1650	-1650
ECF		-58.5	577.2	887.9	1198.6	1509.3

Debt Cash Flow (DCF)

Year		1	2	3	4	5
Interest Payments		440	462	484	506	528
less increase in Debt		-275	-275	-275	-275	-275
DCF		165	187	209	231	253

Capital Cash Flow (CCF)

Year		1	2	3	4	5
ECF		-58.5	577.2	887.9	1198.6	1509.3
DCF		165	187	209	231	253
CCF		106.5	764.2	1096.9	1429.6	1762.3

VI. VALUATION OF THE PROJECT

After ascertaining cash flows of the project in hands of different types of investors, the valuation of the project was done using following discounting rates.

Table	Cash Flow	Discounting Rate	Value
Table 4	Debt cash flow	Cost of debt	Market value of debt
Table 5	Equity cash flow	Cost of equity	Market value of equity
Table 6	Capital cash flow	WACC (before-tax)	Market value of project/firm
Table 7	Free cash flow	WACC (after-tax)	Market value of project/firm

Table 4 : Valuation of Debt Cash Flow

Year	0	1	2	3	4	5
Debt Cash Flow		165.00	187.00	209.00	231.00	253.00
r_d		8.00%	8.00%	8.00%	8.00%	8.00%
Value of Debt	6848	7230	7622	8023	8433	8855

Table 5 : Valuation using Equity Cash Flow

Year	0	1	2	3	4	5
ECF		-58.50	577.20	887.90	1198.60	1509.30
r_e	0	18.89%	18.40%	18.20%	18.07%	18.01%
Value of Equity	7408	8866	9920	10837	11597	12177
Debt	6848	7230	7622	8023	8433	8855
Value of Business	14256	16096	17542	18860	20031	21032

Table 6 : Valuation using CCF

Year	0	1	2	3	4	5
CCF		106.50	764.20	1096.90	1429.60	1762.30
WACC (before tax)		13.66%	13.73%	13.77%	13.79%	13.80%
Value of Business	14256	16096	17542	18860	20031	21032
Debt	6848	7230	7622	8023	8433	8855
Value of Equity	7408	8866	9920	10837	11597	12177

Table 7 : Valuation using Free Cash Flow / WACC

Year	0	1	2	3	4	5
ECF		-47.50	602.50	927.50	1252.50	1577.50
WACC (after tax)		12.31%	12.47%	12.55%	12.60%	12.62%
Value of Firm	14803	16673	18150	19501	20704	21740
Debt	6848	7230	7622	8023	8433	8855
Value of Equity	7956	9443	10529	11478	12271	12885

It was observed from table 7 that valuation using WACC (after tax) gave a different project valuation in comparison to other methods. To alleviate the difference of valuation using WACC (after tax) method, WACC (modified) was estimated using book values of debt and revised project valuation was given in table 8.

Table 8 : Valuation using Free Cash Flow / WACC(modified)

Year	0	1	2	3	4	5
ECF		-47.50	602.50	927.50	1252.50	1577.50
WACC (modified)		12.58%	12.73%	12.80%	12.85%	12.88%
Value of Firm	14256	16096	17542	18860	20031	21032
Debt	6848	7230	7622	8023	8433	8855
Value of Equity	7408	8866	9920	10837	11597	12177

When WACC modified values are used, all the methods gave identical valuation.

VII. Conclusion

To value a business or project the post popular method is to use WACC as discounting rate. In its basic definition, WACC is the weighted average of the cost of capital coming from both the equity and the debt. However, the practical implementation of WACC concept often poses problem due to changing leverage of the firm and tax shield valuations linked to the divergence between book values and market values. In this paper disparity due to tax shield valuation when market valuation of firm's debt differs from its book value is addressed.

The net present value of a project using other methods was compared with the valuation using WACC method. It was observed that value of the project using WACC (modified) accounted tax shield benefits more accurately and produced result that were comparable to the results obtained from equity cash flow and capital cash flow methods.

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Postmodern Advertising Versus Modern Advertising & Consumer Response Check

By Nimran Mustafa
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Abstract - Postmodern advertising and modern advertising are two broad concepts which emphasize on the change of economic factors and social values. With the conception of postmodernism after modernism, it brought a change in the style of art, technology architecture etc. as well as in advertising. Advertising is a significant factor for promoting product or service. Now, the techniques of postmodernism also change the criteria of advertisement. In this paper, I have discussed the phenomena of change related to advertising in Pakistan and also checked the consumer response. To find out if there is any impact on the society. Plus I wanted to find out either they are accepting it or not because mostly ads are based on postmodernism.

Keywords : Advertising, postmodern, modern, postmodern advertising, modern advertising.

GJMBR-A Classification : FOR Code: 150504, 150501, 150505 JEL Code: M37

POSTMODERN ADVERTISING VERSUS MODERN ADVERTISING CONSUMER RESPONSE CHECK

Postmodern Advertising Versus Modern Advertising & Consumer Response Check

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Abstract - Postmodern advertising and modern advertising are two broad concepts which emphasize on the change of economic factors and social values. With the conception of postmodernism after modernism, it brought a change in the style of art, technology architecture etc. as well as in advertising. Advertising is a significant factor for promoting product or service. Now, the techniques of postmodernism also change the criteria of advertisement. In this paper, I have discussed the phenomena of change related to advertising in Pakistan and also checked the consumer response. To find out if there is any impact on the society. Plus I wanted to find out either they are accepting it or not because mostly ads are based on postmodernism.

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I. Introduction

According to Wikipedia the definition of postmodernism is"Any style in art, architecture, literature, philosophy, etc., that reacts against an earlier modernist movement". The term was first used around the 1870s in various areas. For example, John Watkins Chapman avowed "a postmodern style of painting" to get beyond French Impressionism and J.M. Thompson in his 1914 article in "The Hibbert Journal" used it to describe changes in attitudes and beliefs in the critique of religion. Basically, the meaning of postmodern is the era of after the modernism when all the things have gone beyond modernity.

Postmodernism brought change with itself. It changes the style of art, concept, paintings, religion most importantly it changes the thinking of people. After, the modern era the thinking of society changed and this turn around changed everything according to their thinking and that's why the postmodern came into existence. In short words, postmodern is the era where genre of art and literature and especially architecture in reaction against principles and practices of established modernism.

Postmodern and modern are interrelated with each other, so we also have to understand the concept of modernism.

The definition of modernism is "modernism, in its broadest definition, is modern thought, character, or practice". Modernism is the era before the postmodern where a historical change takes place according to their environment. A historical period in Western culture and has its origins in the Enlightenment movement (a movement in Europe from about 1650 until 1800 that advocated the use of reason and individualism instead of tradition and established doctrine) at the end of the 18th century.

In the period of modernism, people work in a contemporary style. Focus related to work of art in that era was to make it unique. The overall thinking of individuals was based on accepted cultural values and norms. There is nothing like over exposure and does not enhance the materialistic thinking. The modernism practices are typical of contemporary life or thought.

Now, these two eras have also evolved in advertising. The type of postmodern advertising and modern advertising are totally different from each other. In the advertising industry the postmodern era started in 1944 onwards. In this industry, due to postmodernism a lot of things changed and its effects can also be seen in our society. If we see today's postmodern ads compared to the ads of modern times we can clearly see the difference between the two. The new postmodern technique comprises of techno based ads, full of graphics, digitally manipulated images and the excessive use of vulgarity and sexuality in the ads.

Our life is surrounding by TV commercials, outdoor billboards, company's broachers, ads on radio etc. there is a vast use of electronic and non-electronic media these days unlike anything experienced ever before. Every corporate firm adopt advertising to promote their product through marketing campaigns, ads on the television, display their products on the billboards and through different advertising techniques they try to acquire attention of the customers.

When we examine television advertising, we once again find art and technology being used to create simulations that tell stories in an effort to evoke desired reactions from audiences. But in advertising we see a strange new cultural creation, the 30-second commercial is full of drama, graphics, images, music, theatrical performances, superimposed illustrations, narration, and other elements, which reinforce each other to achieve their effect.

To examine postmodern ads, we need to discuss some techniques that are used in such ads. Some of the techniques are given as under:

- Inventions of sound-bite, the sizzle of cooking food turns out to be a sound effect added during editing

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- Simulation in the form of digitally manipulated images- full of talking dogs, children who grow to giant size, products that zoom into space, dancing credit cards and scenes that suddenly become two-dimensional screens,
- Visual fantasy, deceptive images of the products, and false claims
- Trivial product information as if it is of momentous importance
- Use glamour or sex to attract audience
- A great many use humor to win over viewers and reduce the pretentiousness of the message
- Try to evoke a sense of empathy and sincerity in an effort to melt viewers emotionally into buying the product
- Last but not the least, females are used for erotic and pornographic purposes in the ads

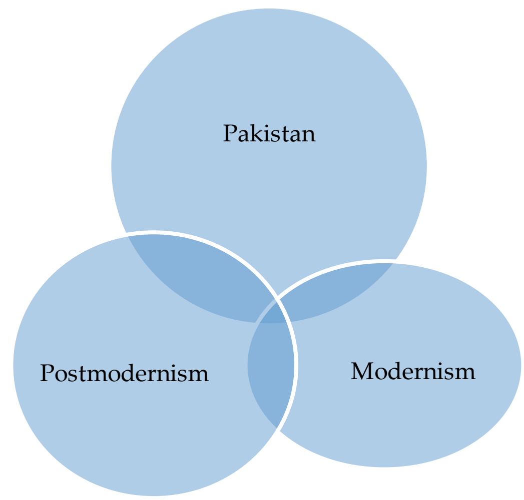
Now the advertising agencies mostly follow the postmodern techniques because they are following the rule of: "when you are in Rome, do as the Roman's do". When we are living in a society that follows the postmodern techniques, so how we can leave these things? Obviously we can't because a society is a formal association of people with similar interests. That's why the ad agencies follow the postmodern approach on the demand of society.

When ads are running on the television or other devices, it directly effects on the society. Ads are for the people (who form the society collectively) to pursue them to buy products and services of the company. That's why it has a direct impact on the thinking, views, and personalities of the people and generates desired/undesired responses. A company's uses every possible postmodern technique in their commercials to ensure that a message goes to their customers that their product is perfect for them. Because of these things our society is gradually adopting postmodernism day by day. A lot of these changes have also been accepted by the Pakistan's society.

Here a question arises. Has the Pakistan's society adopted these changes or not? If yes, than what is the response of the consumer and as well as the response of the society? If you study the ads made by the Pakistani advertising agencies, you can easily understand that they are following the postmodern advertising techniques here. Some groups in our society do not agree with these kinds of things.

II. Theoretical Setting

Advertising is the main source of communication that connects the company's product and the customer. A company cannot sell a product by their own way; they have to adopt a source to transfer their message to the target audience. Either a very small firm or a giant corporation, both have to advertise their product and service to sell it and acquire a profitable margin. Advertising is the only way of doing this. But the main thing is what kind of method they adopt to advertise their product.



If we study the ads in Pakistan, mostly are based on postmodernism. Pakistan's industry is growing day by day and companies have to face tough competition in the local market. As investment came here in the form of foreign investment and aid we saw a boom in our economy. The companies advertise their products through advertising by adopting the method of postmodernism or modernism in Pakistan. In this piece we have looked at the changes that have taken place in society over the last few decades and briefly examined the idea that we have now entered into a new postmodern era.

Both postmodern advertising and modern advertising are being practiced in Pakistan's society. But due to postmodernism, a change has also come. This change has manipulated the concept of advertising. The ads are based on vulgarity and sexuality by using the females. This kind of concept is against our norms and values of the society but still prevailing. Due to this, one has to look at possible response of the consumers to see whether they are accepting this kind of ads or not.

Whenever the company will go to distribute their product into some other country, firstly they study the characteristics of the society to check if the product is according to their norms and values, than promote it with their own way. By this way, a lot of new techniques also come from abroad and manipulate our society's culture.

Technology is also a major driver of postmodernism. As we have discussed the techniques of postmodern ads, some of these techniques are driven through technology. Technology is the only way by which you can make digitally manipulated characters, graphics and pictures. For the last few decades, technology has been revolutionized and become an important and significant part of our life. Technology has provoked the post-modernity in the advertising industry.

Globalization is the process by which a world is becoming interdependent; the information is shared on a worldwide scale. Globalization can also be a driver of postmodernism advertising in Pakistan. Nowadays, the process of communication with each other requires little effort. When you can easily access the information on worldwide web then you can adopt whatever you like. Pakistan markets are being increasingly globalized and trying to follow international standards. This is why the industry of advertising is in a position of progressiveness.

We should also check the consumer response, when the audiences consume the ads by watching it on the television. What are their response regarding the ads and how they react by the effect of the postmodern or modern ads? The answer to this question is that such kind of advertisements greatly impact on society. They tend to change the characteristics, norms and values of the society. Pakistan industry follows the postmodern advertising but to certain limits. Because, our country is an Islamic country that's why there are people who do not accept such kind of things.

III. Discussion and Conclusion

Advertising is momentous for the promotion of the company's product to the target audience. Advertising is the only way through which we can deliver our message and increase the desire of audience to consume the product. But, there is a choice for the companies to either deliver their message through postmodern techniques or by modern techniques. It depends upon the acceptance of the society. In Pakistan, both techniques are being practiced but the level of postmodernism advertising is higher than the modernism advertising.

To check the consumer response for accepting the postmodern ads in Pakistan, one should consult with the concerned people of advertising agencies to find out about their work and see where they stand now. Plus gather information from the members of the society to see what impact these advertisements have on their life. Consumer response will guide about the acceptance of these techniques (postmodern & modern) and is there any change in the society. It will also answer the question of whether; we should go for postmodern advertising or modern advertising in Pakistan.

Future Research

Future research can be done to study the status of Pakistan advertising industry, are they following the postmodern advertising or modern techniques. Research should also be done to check the response of the consumer and their impact on the society.

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What Is Islamic Marketing

By Syed Ali Hussnain
University of Lahore, Pakistan.

Abstract - No significant work has been done on the subject of Islamic marketing and for the same reason we can't even find a proper definition of it in any book or on any website. No doubt it is an emerging field and it will take a long time to realize its full potential. The good news is that it is finally getting much needed attention which it deserves because if handled properly it holds the key of creating a successful system to cater the needs of 1.7 Billion Muslims worldwide. This research paper is an effort in this direction to lay the foundation of, and advance Islamic marketing as a new discipline.

GJMBR-A Classification : FOR Code: 150503, 150505 JEL Code: M31, M37

WHAT IS ISLAMIC MARKETING

Strictly as per the compliance and regulations of:

What Is Islamic Marketing

Syed Ali Hussnain

Abstract - No significant work has been done on the subject of Islamic marketing and for the same reason we can't even find a proper definition of it in any book or on any website. No doubt it is an emerging field and it will take a long time to realize its full potential. The good news is that it is finally getting much needed attention which it deserves because if handled properly it holds the key of creating a successful system to cater the needs of 1.7 Billion Muslims worldwide. This research paper is an effort in this direction to lay the foundation of, and advance Islamic marketing as a new discipline.

I. Introduction

Marketing is a vast subject and is undergoing through continuous evolution. If we closely follow this process of evolution by looking at its different definitions given in different eras we will come to know that the focus is shifting more and more on customers in order to create a long lasting relationship with them. It doesn't stop here, and then the idea of value creation, communication and delivery comes and starts a new debate altogether.

We have to turn the pages of history and dig out the basic idea behind marketing and why it was needed at the first place? There was a time when things were made on small scales, then came the age of mass production. When this age came it brought along some problems with it like how to make one's goods or services stand apart from others, how to reach customers spread across the country or continents. At this point the concept of marketing was introduced to solve this problem. But like any other subject it went through different stages and phases of evolution.

In the start like what I mentioned earlier, it was nothing more than just a tool to achieve organizational objectives and now it has become an integral part of any business which is not only beneficial for the organization alone but also looks over and protects the interest of other stakeholders involved in the process. A process whose goal is to create, communicate and deliver value to customers.

Surprisingly, Islam gave this Idea fourteen hundred years ago in its own style. If we study books written on Islamic law related to business and the approved etiquettes of doing it, we will be amazed to see the extent to which Islam ensures that business must be done in a way in which one may neither be a loser nor avaricious.Plus Rights of buyers and sellers and all other parties involved are also protected.

Unfortunately, majority of work related to marketing like most other science and arts subjects is done by American and European scholars. Very limited work has been done on the subject of "Islamic marketing". If studied and researched properly, we can unfold many mysteries, resolve many problems and find numerous solutions to the challenges faced by us and can even present a better, more effective way of doing business to the world.

> The Chartered Institute of Marketing defines marketing as:
>
> "The management process responsible for identifying, anticipating and satisfying customer requirements profitably"
>
> American Marketing Association (AMA) defines it as:
>
> "Theactivity set of institutions and processes for creating,communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large"
>
> Value based marketing is defined as:
>
> "The management process that seeks to maximize returns to shareholders by developing relationships with valued customers and creating a competitive advantage"

II. Marketing and Islam

When we say Islam is not just a religion, it's a way of life then it must provide us the guidelines on how to conduct business. A lot of work has been done on Islamic finance but limited, very limited work has been done on this topic. Fortunately, this is to change as scholars, academics, policy makers, managers and other practitioners from all around the world are gathering in Kuala Lumpur, Malaysia for the"1st International Conference" on Islamic Marketing and Branding, which will be held on the 29th and 30th November, 2010.

Another step in the right direction is the launch of "Journal of Islamic Marketing"which aims to lay the foundation of, and advance, Islamic marketing as a new discipline. It

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will provide a world-class forum for researchers, academics, and business people where all issues related to Islamic marketing can be actively debated.

I believe marketing practices, embedded in a strong ethical doctrine, can play a vital role in raising the standards of business conduct worldwide, while in no way compromising the quality of services or products offered to customers, or surrendering the profit margins of businesses. Adherence to such ethical practices can help to elevate the standards of behavior and thus of living, of traders and consumers alike.

III. Theoretical Setting

Islamic marketing is a concept that's needs to be understood on several levels, the addition of religious factor in it makes it a more sensitive subject. First of all let's clarify where marketing activities can be applied and where theycannot be:

- It is forbidden to make earnings through all kinds of unclean objects, though there is hesitation in the generality of the rule. It will be interpreted as all kinds of business who are considered unclean. like production, sales and all kinds of activities related to marketing of alcohol, gamblingetc.,
- Adulteration with something concealed in the sale and purchase is forbidden. Such as mixing water with milk, and mixinglow quality food with high quality food without informing the other party is prohibited. We see a trend of not honestly mentioning the quantity and quality of contents in products which is a part of marketing activity of a company. This practice is prohibited in Islam and therefore cannot be part of Islamic marketing.
- The sales and marking of all the instruments meant for prohibited acts when the benefit intended to accrue from them depends solely on them, like the instruments for entertainment, such as lyre, flutes, harps, etc., and the gambling instruments, such as the backgammon, chess etc.,
- Sales and marketing of weapons to the enemies of (Islamic) faith is forbidden when they are engaged in war against Muslims; rather, even in case of cessation of relations with them while there is fear of war from them.
- Drawing pictures of living beings from among human beings and animals is forbidden, when they are concrete form as are usually made of stones, metals, wood etc. According to the stronger opinion, it is allowed if they are not in concrete form, though it is more cautious to avoid it. It is allowed to draw the pictures of trees, flowers, etc., even in concrete form. Therefore all activities related to marketing of such companies, galleries, websites which violate this law is prohibited.
- The performance, listening to and earing through music is forbidden. Therefore marketing of all type of concerts, music albums, websites containing music etc., is prohibited
- Performance of magic, it's teaching and learning as well as earning through it is forbidden. The same goes for employing the angels, calling the Jins and overpowering them, calling the souls of the dead and overpowering them, and the like. Similarly there is divination (means foretelling about things to happen in future with them impression that some Jins are conveying him/her such news). Last but not the least astrology is also forbidden. Therefore all marketing activities related to such persons, companies are prohibited. Especially in Pakistan there is a big trend of advertisements given by such persons in newspapers and magazines. Advertising is a part of marketing; therefore all Advertising companies facilitating them are violating the Islamic law and ethics.

Business is of several types and categories. I have just mentioned a few of the categories and their relevant problems. In my humble opinion it is obligatory on every Muslim who indulges in business or other types of earnings to learn their relevant rules and problems in order to distinguish the valid ones from the invalid ones.

After holding many meetings and interviews with renowned Islamic scholars and studying books written by icons of Islamic jurisprudence, I am writing down the approved and disapproved etiquettes of marketing based on Islamic law and ethics:

- The most important of them is moderation and fulfillment of the demand in a way that one may neither be a loser nor avaricious
- It is best to refrain from earnings through all kinds of unclean objects
- If someone repents in sale or purchase, and wants to rescind the transaction, one must accept it
- There must be equality of the prices for all customers. So there must be no difference between a haggler and others. So that one may charge less with the former and more with the latter. Apparently, there is no objection in case of difference due to moral excellence and faithfulness (loyalty)

The disapproved ones are as follows:

- Exaggeration in praising one's product or services
- Swearing truly about the sale or purchase
- Hiding the defect of one's product or services from customers
- While dealing with lowly people, not caring for what they say and what is said to them
- Demand reduction in the price after having finalized the deal
- Intervene in other people's dealing (competitors). Islam promotes healthy competition and fair play.

If one closely observes he/she will come to know that at theheart of Islamic marketing is the principle of value-maximization based on equity and justice which is not only beneficial to all the stakeholders involved in the process but also generate a positive impact on the society as a whole.

IV. Discussion and Conclusion

After giving the framework of where Islamic marketing can and cannot be applied and the etiquettes associated with it.It's time to define Islamic marketing but while doing so we have to keep the evolution of marketing in mind, plus the every important fact of where it stands today.

Today marketing is filled with contemporary approaches like "relationship marketing" and "social marketing". Both have a focus on the customer while one's aim is to give the best possible attention, customer services and therefore build customer loyalty while the other comes with added proviso that there will be a curtailment on any harmful activities to society, in either product, production, or selling methods.

Islamic marketing combines the goodness of the both because it is not based on the idea of simply fulfilling the needs and wants of its customers.

It has some strict parameters to follow and the origin of these parameters is the Quran and the Sunnah.

Concept of Relationship Marketing:

In Relationship marketing Emphasis is placed on the whole relationship between suppliers and customers. The aim is to give the best possible attention, customer services and therefore build customer loyalty.

Concept of Social Marketing:

Similar characteristics as marketing orientation but with the added proviso that there will be a curtailment on any harmful activities to society through product, production, or selling methods

Therefore definition of Islamic marketing would be:

"The process of identification and implementation of value maximization strategies for the welfare of the stakeholders in particular and the society in general governed by the guidelines given in Quran and Sunnah"

Adherence to such marketing practices will not only benefit us in this world but in the world after it because I strongly believe that at the heart of Islamic marketing is the principle of value-maximization based on equity and justice (constituting just dealing and fair play) for the wider welfare of the society.

Future Research

In my opinion the subject of "Islamic marketing" has huge potential for further research and study as it presents a unique case of marriage between Islamic jurisprudence and the contemporary theories of management sciences. Because of its enormous potential I believe it can be the next big thing in the field of marketing.

I have come up with a list of the names of the topics which are essential and hold the key if we want to understand the subject of Islamic marketing in its true sense:

- Islamic business ethics
- Islamic law and marketing practices
- Advertising and promotion in Islam
- Concept of Halal market in Islam
- Other Islamic marketing, management and branding topics.

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Many researchers searching for information online will use search engines such as Google, Yahoo or similar. By optimizing your paper for search engines, you will amplify the chance of someone finding it. This in turn will make it more likely to be viewed and/or cited in a further work. Global Journals Inc. (US) have compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Key Words

A major linchpin in research work for the writing research paper is the keyword search, which one will employ to find both library and Internet resources.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy and planning a list of possible keywords and phrases to try.

Search engines for most searches, use Boolean searching, which is somewhat different from Internet searches. The Boolean search uses "operators," words (and, or, not, and near) that enable you to expand or narrow your affords. Tips for research paper while preparing research paper are very helpful guideline of research paper.

Choice of key words is first tool of tips to write research paper. Research paper writing is an art.A few tips for deciding as strategically as possible about keyword search:

- One should start brainstorming lists of possible keywords before even begin searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in research paper?" Then consider synonyms for the important words.
- It may take the discovery of only one relevant paper to let steer in the right keyword direction because in most databases, the keywords under which a research paper is abstracted are listed with the paper.
- One should avoid outdated words.

Keywords are the key that opens a door to research work sources. Keyword searching is an art in which researcher's skills are bound to improve with experience and time.

Numerical Methods: Numerical methods used should be clear and, where appropriate, supported by references.

Acknowledgements: Please make these as concise as possible.

References

References follow the Harvard scheme of referencing. References in the text should cite the authors' names followed by the time of their publication, unless there are three or more authors when simply the first author's name is quoted followed by et al. unpublished work has to only be cited where necessary, and only in the text. Copies of references in press in other journals have to be supplied with submitted typescripts. It is necessary that all citations and references be carefully checked before submission, as mistakes or omissions will cause delays.

References to information on the World Wide Web can be given, but only if the information is available without charge to readers on an official site. Wikipedia and Similar websites are not allowed where anyone can change the information. Authors will be asked to make available electronic copies of the cited information for inclusion on the Global Journals Inc. (US) homepage at the judgment of the Editorial Board.

The Editorial Board and Global Journals Inc. (US) recommend that, citation of online-published papers and other material should be done via a DOI (digital object identifier). If an author cites anything, which does not have a DOI, they run the risk of the cited material not being noticeable.

The Editorial Board and Global Journals Inc. (US) recommend the use of a tool such as Reference Manager for reference management and formatting.

Tables, Figures and Figure Legends

Tables: Tables should be few in number, cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g. Table 4, a self-explanatory caption and be on a separate sheet. Vertical lines should not be used.

Figures: Figures are supposed to be submitted as separate files. Always take in a citation in the text for each figure using Arabic numbers, e.g. Fig. 4. Artwork must be submitted online in electronic form by e-mailing them.

Preparation of Electronic Figures for Publication

Even though low quality images are sufficient for review purposes, print publication requires high quality images to prevent the final product being blurred or fuzzy. Submit (or e-mail) EPS (line art) or TIFF (halftone/photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Do not use pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings) in relation to the imitation size. Please give the data for figures in black and white or submit a Color Work Agreement Form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution (at final image size) ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs) : >350 dpi; figures containing both halftone and line images: >650 dpi.

Color Charges: It is the rule of the Global Journals Inc. (US) for authors to pay the full cost for the reproduction of their color artwork. Hence, please note that, if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a color work agreement form before your paper can be published.

Figure Legends: Self-explanatory legends of all figures should be incorporated separately under the heading 'Legends to Figures'. In the full-text online edition of the journal, figure legends may possibly be truncated in abbreviated links to the full screen version. Therefore, the first 100 characters of any legend should notify the reader, about the key aspects of the figure.

6. AFTER ACCEPTANCE

Upon approval of a paper for publication, the manuscript will be forwarded to the dean, who is responsible for the publication of the Global Journals Inc. (US).

6.1 Proof Corrections

The corresponding author will receive an e-mail alert containing a link to a website or will be attached. A working e-mail address must therefore be provided for the related author.

Acrobat Reader will be required in order to read this file. This software can be downloaded

(Free of charge) from the following website:

www.adobe.com/products/acrobat/readstep2.html. This will facilitate the file to be opened, read on screen, and printed out in order for any corrections to be added. Further instructions will be sent with the proof.

Proofs must be returned to the dean at dean@globaljournals.org within three days of receipt.

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6.3 Author Services

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6.4 Author Material Archive Policy

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6.5 Offprint and Extra Copies

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the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

2. Evaluators are human: First thing to remember that evaluators are also human being. They are not only meant for rejecting a paper. They are here to evaluate your paper. So, present your Best.

3. Think Like Evaluators: If you are in a confusion or getting demotivated that your paper will be accepted by evaluators or not, then think and try to evaluate your paper like an Evaluator. Try to understand that what an evaluator wants in your research paper and automatically you will have your answer.

4. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

5. Ask your Guides: If you are having any difficulty in your research, then do not hesitate to share your difficulty to your guide (if you have any). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work then ask the supervisor to help you with the alternative. He might also provide you the list of essential readings.

6. Use of computer is recommended: As you are doing research in the field of Computer Science, then this point is quite obvious.

7. Use right software: Always use good quality software packages. If you are not capable to judge good software then you can lose quality of your paper unknowingly. There are various software programs available to help you, which you can get through Internet.

8. Use the Internet for help: An excellent start for your paper can be by using the Google. It is an excellent search engine, where you can have your doubts resolved. You may also read some answers for the frequent question how to write my research paper or find model research paper. From the internet library you can download books. If you have all required books make important reading selecting and analyzing the specified information. Then put together research paper sketch out.

9. Use and get big pictures: Always use encyclopedias, Wikipedia to get pictures so that you can go into the depth.

10. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right! It is a good habit, which helps to not to lose your continuity. You should always use bookmarks while searching on Internet also, which will make your search easier.

11. Revise what you wrote: When you write anything, always read it, summarize it and then finalize it.

12. Make all efforts: Make all efforts to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in introduction, that what is the need of a particular research paper. Polish your work by good skill of writing and always give an evaluator, what he wants.

13. Have backups: When you are going to do any important thing like making research paper, you should always have backup copies of it either in your computer or in paper. This will help you to not to lose any of your important.

14. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several and unnecessary diagrams will degrade the quality of your paper by creating "hotchpotch." So always, try to make and include those diagrams, which are made by your own to improve readability and understandability of your paper.

15. Use of direct quotes: When you do research relevant to literature, history or current affairs then use of quotes become essential but if study is relevant to science then use of quotes is not preferable.

16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

17. Never use online paper: If you are getting any paper on Internet, then never use it as your research paper because it might be possible that evaluator has already seen it or maybe it is outdated version.

18. **Pick a good study spot:** To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

19. Know what you know: Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

20. Use good quality grammar: Always use a good quality grammar and use words that will throw positive impact on evaluator. Use of good quality grammar does not mean to use tough words, that for each word the evaluator has to go through dictionary. Do not start sentence with a conjunction. Do not fragment sentences. Eliminate one-word sentences. Ignore passive voice. Do not ever use a big word when a diminutive one would suffice. Verbs have to be in agreement with their subjects. Prepositions are not expressions to finish sentences with. It is incorrect to ever divide an infinitive. Avoid clichés like the disease. Also, always shun irritating alliteration. Use language that is simple and straight forward. put together a neat summary.

21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. **Think technically:** Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page

- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

Title Page:

Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.

Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript--must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

Introduction:

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.
- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
- Shape the theory/purpose specifically - do not take a broad view.
- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.

- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

Administration Rules Listed Before Submitting Your Research Paper to Global Journals Inc. (US)

Please carefully note down following rules and regulation before submitting your Research Paper to Global Journals Inc. (US):

Segment Draft and Final Research Paper: You have to strictly follow the template of research paper. If it is not done your paper may get rejected.

- The **major constraint** is that you must independently make all content, tables, graphs, and facts that are offered in the paper. You must write each part of the paper wholly on your own. The Peer-reviewers need to identify your own perceptive of the concepts in your own terms. NEVER extract straight from any foundation, and never rephrase someone else's analysis.

- Do not give permission to anyone else to "PROOFREAD" your manuscript.

- Methods to avoid Plagiarism is applied by us on every paper, if found guilty, you will be blacklisted by all of our collaborated research groups, your institution will be informed for this and strict legal actions will be taken immediately.)
- To guard yourself and others from possible illegal use please do not permit anyone right to use to your paper and files.

Criterion for Grading a Research Paper (Compilation)
by Global Journals Inc. (US)

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Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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