

Governance of Money Laundering (M.L): An application of Principal-Agent Model

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1.1 INTRODUCTION:

Money laundering has element of a bate for an individual and a tool of exploitation for another individual and carries an externality (positive or negative) for the society .Its multifarious nature is analyzed in perspective of Principal-Agent–Client Model of Provan and Milward (2001). Model of Network Evaluation by Provan and Milward (2001) is originally used for health and social sector; however this model is extended and applied for governance of money laundering. In this model we evaluate the affectivity of the network of money transaction with the objective function to minimize transaction of money through the channel of money laundering by making laws and procedure and get these implemented through agents. As there is involvement of multiple nature stakeholders therefore evaluation of network effectiveness is made at three levels i.e. at community level to analyze: community, the network itself and the network’s organizational participants. These levels are of interest to three major constituents of money transaction network such as principal, agent, and clients.

Highlighting the significance of involvement of and interests of stakeholders in the network Provan and Milward (1983) insists that a network must satisfy the needs and expectations of those groups within a community that are both a direct and indirect interest in seeing that client needs are adequately met. This would enable us to visualize whether the structure of existing network and strategies of principal and agents are optimal and sustainable to achieve their short run and long run objectives? The strategies of clients and agents are also analyzed in view of their payoffs i.e. present value of cost and returns from adopting a specific strategy out of available options and choices. The present value of cost and returns are calculated along the lines of Becker (1993) Model of investment in human capital.

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Principal: in this model of money laundering is International Financial regime who governs money transaction directly through different channels by making laws to regulate this process. Different laws rules and procedures are made to make money transaction more transparent and monitorable and take measures to control money laundering. International Financial regime comprises two type of organizations one organizations established one time on permanent basis such as United Nations, World Bank, International Monetary Funds and other type of organizations and institutions are developed to achieve specific objectives at specific time such as Financial Action Task Force (FATF),and Asia/Pacific Group on Money Laundering etc.

The principal utilizes the services of agents of two types (1) the states, banking and financial institutions and organizations being operationalised in governance of money transactions through different channels (2) agents comprising informal sector and their activities are not fully monitored such as money changer and underground elements involved in money transaction. As a part of money transaction also takes place through money laundering channel so they may be instrumental or otherwise in the measures to be carried out to curb money laundering the services of agents are utilized to facilitate clients.

Clients: are the individuals, group or society that are getting services of different agents for transactions of their money through different channels at international and local levels They may also get services of agents directly or indirectly through money laundering channel for transaction of money.

All the integrating partners of the financial system such as principal, agent and client, make their decisions rationally while taking into account the available choices and their preferences. They count present value of their costs of making specific decisions regarding their role in system of money transaction and present value of returns from adopting specific role.

So organization of this paper is in the manner that Section two deals with basic concepts of money laundering, section three gives information regarding money laundering section four highlights strategy of the principal. Loses to the principal and agents are discussed in section four and negative externality is discussed in section five similarly section six points out our proposed model. Conclusion and recommendation are given in section seven.

Before starting our formal theoretical analysis we give a brief description of money laundering, its components, its characteristics and methods of money laundering so as to make readers conversant with the whole phenomena

2.1 Money Laundering: Its Nature and Scope

In simple word the money laundering is defined as process of “turning of dirty money into clean money”. The crucial thing in this process is the act of conversion and concealment. So the more generally money laundering can be defined as “the process of converting cash, or other property obtained illegitimately to legitimate one.”

In its earlier times United Nations has given its definitions of money laundering that it is “Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances². This definition is considered as a benchmark for rest of the states and international agencies in order to set their objectives and pursue their strategies pertaining to money laundering. However over the times the domain and implications of money laundering made different states and international agencies to interpret and follow their own methods of controlling money laundering. Money laundering is not a single man act at a single moment rather it’s a complex and multistage phenomena carried out in different stages.

2.2 Stages of Money Laundering

In the literature different stages of money laundering at general and specific level have been given however following are most commonly found

There are three stages involved in money laundering namely.

- a. Placement
 - b. Layering and
 - c. Integration.
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- a Placement: it reflects the movement of cash from its original source in different forms such as currency smuggling, bank complicity, currency exchanges securities brokers, blending of funds, and asset purchase.

²Money laundering is defined in Article 3 Section 1(b) of the Convention as follows:

The conversion or transfer of property, knowing that such property is derived from any offence or offences from an act of participation in such offence or offences, for the purpose of concealing or disguising the illicit origin of the property or of assisting any person who is involved in the commission of such an offence or offences to evade the legal consequences of his actions ;

- b. Layering; main purpose of money layering is to make the laundering activity undetectable and uncoverable. This is done through different methods such as cash conversion into monetary instruments, and material assets are bought with cash and then sold subsequently.

C Integration enables the movement of previously laundered money into the economy mainly through the banking system in order to make such money apparently normal business earnings. The means include; property dealing, front companies, foreign bank complicity, and false import/export invoices

It is evident from the process of money laundering that that is a more complex phenomenon having a set of characteristics which are highlighted in following paragraphs.

2.3 Characteristics of money laundering (ML)

Following are main characteristics of money laundering.

- 1 Money laundering is basically a group activity.
- 2 Money laundering is practically a criminal activity and once began; normally there is no end to it.
- 3 Money laundering recognizes no boundaries. It has been internationalized.
- 4 Money laundering activities are not one shot transaction; rather these involve a chain of transactions, and are undertaken at a large scale.
- 5 Money laundering activities are carried out through a sophisticated and complex process.

Money laundering involves more than one person and the process is highly sophisticated and interdependent among agents and clients. Its transparency is difficult to achieve and implement, therefore principal has to consider and handle this issue in more diversified and complex manner.

Principal pursues her objectives in order to get returns by controlling money laundering through governance of available choices in the network and system of money transaction. Laws, procedures and regulations are framed and states, financial institutions, organizations and banking institutions are made obligatory to follow and observe these laws and rules pertaining to

transaction of money. So the states, financial institutions and organizations and banking institutions act as agent of the principal to implement their framed rules in order to achieve already set objectives. As the principal prefers to pursue anti money laundering measures through her agents so they make rules and procedures and strategy to get maximum of transactions of money in line with their framed rules/procedures and channels in turn leading to achieve their objectives. These agents specifically states also act at the same time as principal in local system of governance of money transaction, this dual role is in line with agency theory of Fama and Jensen (1983).

As the states are assumed as rational agents so they compare present value of marginal cost of not serving the interests of the principal and present value of returns from extending their services in governance of money transaction in line with the objectives of the principal. The principal makes the laws making monitoring more easy and transparent so that the role of agents in this regards may be more contributing in the effective governance of money transaction specially in curbing money laundering through different measures.

3 Negative Effects of Money Laundering for formal Agents

Money laundering has multiple affects on different individuals, state, international agencies and banking sectors. The principal and formal agents have to face negative impacts on their economies due to money laundering. State's economies directly and indirectly suffer from money laundering at institutional state and individual. Net foreign assets are underestimated and economic growth is hampered with money laundering activities. The strength and credibility of financial sector, its institutions and banking sector are considered as important determinant of economic growth; reduce productivity in the economy. Similarly real sector of an economy gets market distortions. This phenomenon encourages crime and corruption, in the society along with negative effects on economy's external sector—international trade and capital flow hampering long-term economic development. On the other hand, anti-money laundering activities based on principal's policies may save a country from paying above mentioned types of costs. The negative affects of money laundering activities may be on financial sector, real sector, and external sector of formal agents such as state, financial institutions and banking sectors.

3.1 Affects on Financial Sector.

Financial sectors may get negative affects of money laundering especially financial institutions including banking and non banking financial institutions and equity markets may directly or indirectly be affected. Basically these institutions facilitate concentration of capital resources from domestic savings and funds from abroad. These institutions provide impetus to furtherance of investment prospects by providing conducive environment and efficient allocation of these resources to investment projects which contributes substantially to long run economic growth

Money laundering impairs the sustainability and development of financial institutions in two ways (1) directly financial institutions are weakened through money laundering as there seems a correlation between money laundering and fraudulent activities undertaken by employees of the institutions. Similarly, with the increase in money laundering activities, major parts of financial institutions of a state are vulnerable to corruption by criminal elements. This strengthens to criminals and other parallel system of money laundering channels. (2) Customer trust reflects level of social capital accumulated by financial institutions, that stock of social capital also contributes to the investment and accumulation of social capital of respective institutions, this has been reconciled with the works of Putnam (1993, 1998, and 2000), Temple (2001) and Woolcock (1998 and 2001). Similarly social capital adjusts the level of risk to depositors and investors from expected institutional fraud and corruption.

3.2 The Real Sector.

Money laundering adversely affects economic growth through the real sector by diverting resources to less productive activities and by facilitating domestic corruption and crime.

Money laundering carried out through the channels other than financial institutions includes more "sterile" investments such as real estate, art, antiques, jewelry, and luxury automobiles, or investments of the type that gives lower marginal productivity in an economy. This suboptimal allocations of resource give lower level of economic growth; the same has already been pointed by Baro and Sala i Martin (2004), Baro (1997) Barro (2001).

3.3 The External Sector.

Money laundering activities may impair any country's economy through the trade and international capital flows. Excessive illicit capital flight from a state may be facilitated by either domestic financial institutions or by foreign financial institutions. That illicit capital flight drains scarce resources specially from developing economies; so by that way economic growth of respective economy is adversely affected. Money laundering negatively affects trust of local citizens in their own domestic financial institutions as well as trust of foreign investors and foreign financial institutions in a state's financial institutions which ultimately contributes to economic growth. Money laundering channels may also be associated with distortions of a country's imports and exports. As with the involvement of criminal elements on the import side they may use illicit proceeds to purchase imported luxury goods, either with laundered funds or as part of the process of laundering such funds.

Different studies carried out by IMF suggest that large-scale money laundering is a short run phenomenon which gives short run and of lower level gains to a state therefore a rational state prefers long run gains over short run gains. The states know that it's a repeated game so their any strategy in the initial period will also determine a reaction and subsequent counter reaction of principal, which may not be in long run interests of a state that is a formal agent.

In view of above expected costs and returns formal agents may extend their cooperative strategy to the principal's objectives and strategy of curbing money laundering.

5.1 Loses to Principal

Money laundering is mostly conceived and used as one of important channel to finance terrorist activities. Particularly since terrorists attacks of September 11, 2001, have created ripples in the world to make efforts to combat money laundering and the financing of terrorism. Now a-days Money laundering is considered as main source of financing terrorism, a threat to global security, and financial stability, transparency, and efficiency of financial market. The money laundering facilitates the criminals and terrorists to operate, as it results into expansion of their financial gains which they use for

criminal activities. Money laundering nurtures illegal activities such as corruption, drug trafficking, arms trafficking, smuggling at local and across the boarder. This hampers institutions, economy, and society at local and international level. Especially in the developed world it is mainly considered as an important cause of promotion of potential threats of terrorism to their citizens. Money laundering has been turning a matter of concern to not only state rather a test of capability of international financial regime that is expected by citizens and states in the developed world. So the credibility of principal to protect and control interests of international community is under threat with the increase in money laundering and failure of monitoring of financial markets activities. Therefore the principal by manipulating the situation adopts its strategy to control money laundering.

5.2 Negative externality of money laundering (Loses to formal agents and principal and society)

In view of above individual and international repercussions of money laundering, it is conceived that it is a major threat to currency and money balances, and economic growth rates at local and international level. The International Monetary Fund (IMF) identifies following macroeconomic consequences of money laundering.

- (1) Measurement errors that result into policy mistakes
- (2) Exchange and interest rates volatility.
- (3) Risks creation due to development of an unstable liability base and unsound asset structures.
- (4) Reduction in tax collection and public expenditure allocation.
- (5) Resources misallocation.
- (6) Contamination effects on legal transactions.

6 Strategy of principal.

Principal: i.e. International financial regime counts present value of her returns specially from developed economies which are their principal as Provan and Milward (1983) view that “in agency-theory terms, these are the principals whose role is to fund and/or monitor the activities of their agents (network agencies),who provide services to their clients. The developed economies want that the money transaction should be carried out through the means not clashing with their interests so the transaction of money through money laundering is unmonitorable and suspected

to serve the interests of the people adversely affecting their interests. As the international financial regime acts as principal to different states and institutions and organizations and banking institutions for implementation and monitoring of laws pertaining to money transactions simultaneously it acts as an agent to the develop world to extend goods and services to pursue their objectives of curbing money laundering. Since most of the contributions towards development of international financial regime at initial stage followed by ongoing expansion is made by the developed economies. So they get returns from the already made investment linked with future expected investment. Returns from international financial regime are in the form of services provided to maximize the transparency and monitoring of money transaction made through different agents through different channels. The main objective is to minimize the money transaction through money laundering channel which is suspected to be linked with terrorist activities against the developed world.

6.1 Money Laundering Countermeasures

Money laundering being a potential threat to different stakeholders of financial systems has facilitated many of the formal agents and principal to make joint effort to counter this menace. Principal has extended its tentacles with target based establishment of organizations and extension of objectives of already institutions as a part of its anti-money laundering strategy. Different organizations and institutions involved in the process of money laundering include Financial Action Task Force (FATF), the Council of Europe, the Commonwealth Secretariat, the International Monetary Fund (IMF), the Inter-American Drug Abuse Control Commission (CICAD), Interpol, the International Organization of Securities Commissions (IOSCO), the Offshore Group of Banking Supervisors (OGBS), the United Nations Crime Prevention and Criminal Justice Division (UNCPCJD), the United Nations International Drug Control Program (UNDCP), the World Bank and the World Customs Organization (WCO).

Similarly the principal is involving different formal agents (states and international financial organizations) through contracts to extend their cooperation against money laundering.. Different types of agreements have been carried out among agents and principal in the following areas to take action against money launderers.

- . Legal
- . Financial and Regulatory

- Law Enforcement

6.1.1 Legal

With these contracts now money laundering has been recognized as a crime and word community i.e. principal and formal agents have to deal with it accordingly. A major strength is drawn from the 1988 Vienna Convention, which is gaining its force with more than hundred signatories to take joint action against laundering of drug proceeds.

The principal (international financial regime) has drafted different laws (Financial Crimes Enforcement Network Compendium) on money laundering pertaining to reporting of transactions involving funds suspected of being proceeds of drug trafficking, reporting of international financial transfers, regulation of over the counter exchange dealing (bureaux de change), requirements for casinos and customer identification in financial institutions. Consequently these model laws have been further adopted by many of states in drafting their local laws.

In addition legal framework has been devised in 1988 Vienna Convention and the Council of Europe's 1990 Convention on Laundering, Search Seizure, and Confiscation of the Proceeds of Crime (the Strasbourg Convention), pertaining to measures for the identification, tracing and seizing of proceeds; legislation to enable competent authorities to confiscate laundered monies and property acquired from illicit sources; and legislation to permit extradition of individuals charged with a money laundering offence.

6.1.2 Financial and Regulatory

There are number of financial and regulatory measures that have been carried out to counter money laundering. However major contribution in this regards is due to the 'Forty Recommendations' of the Financial Action Task Force (1996):

- An end to anonymous accounts in financial institutions and a requirement that they record and maintain records of the identity of their clients (commonly known as the 'know your customer' policy).
- Special attention to be paid to complex, unusual and large transactions with some proposing that institutions be required to report such transactions to competent authorities.

- Countries to consider implementing measures to detect or monitor cash at national borders.
- The development of programmes in financial institutions to guard against money laundering including internal controls and employee training.

6.1.3 Law Enforcement

The third major category of measures is the law enforcement through increased international cooperation in training, technology transfer, and other joint controlling measures shared assistance among other countries in money laundering specially in investigations and prosecutions. Subsequently, international network of bilateral and multilateral assistance through treaties establishing foundations for the methods and means by which one country might assist another in investigations, prosecutions and confiscation is established. This network facilitates and protects interests of its integrating partners and clients.

In addition the principal plays its strategy through it's specialized agencies and group of agents at different occasions in different areas to control money laundering. We give a brief account of different international financial agencies and group of states embedded in network for cooperation to combat money laundering.

6.3 Other Regional Initiatives

Caribbean Financial Action Task Force:

Caribbean Financial Action Task Force comprising states in the Caribbean and northern South America have adopted the 40 Recommendations as described above with some additional region-specific recommendations

Asia/Pacific Group on Money Laundering

Asia/Pacific Group on Money Laundering was established (1997).to provide a focus for co-operative anti-money laundering efforts in the region; with shared experience and through exchange of information and joint efforts handled and combat such as criminal activities.

7 Strategy of Principal (efforts made by international organizations) compatibility of objectives and incentives

The UN is one of the most important international organization to initiate global action to combat money laundering (M.L) and increased drug trafficking that resulted in the laundering of vast sums of criminal proceeds through the banking system; the UN adopted the United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (the Vienna Convention) in 1988. The convention called for the criminalization of ML. In 1998, the UN adopted the Political Declaration and Action Plan Against Money Laundering, seeking acceleration of international efforts for AML. In December 2000, the United Nations Convention Against Transnational Organized Crime was adopted in Palermo, Italy. This convention also called on states (agents) to outlaw the most common offenses, including ML, and for closer international cooperation in extradition, mutual legal assistance, transfer of proceedings, and joint investigations. The United Nations Office on Drugs and Crime's Global Program Against Money Laundering has developed model laws and delivers technical assistance (TA) to UN member states to assist them in the implementation of the UN conventions relevant to AML and CFT.

In addition there are other international organizations involved in anti money laundering efforts such as Bretton Woods Institutions.

7.1 The Bretton Woods Institutions

IMF and the World Bank have assumed a major role as a principal in supporting the efforts of FATF and the UN to combat money laundering and terrorist financing.

7.1.1 International Monetary Fund

IMF has intensified its efforts to assess and strengthen international financial systems through multiple efforts and facilitated in part by the development of the Financial Sector Assessment Program (FSAP) and its Offshore Centre Assessment Program. In 2001, the Board of IMF discussed the issue of money laundering and the ways in which IMF can contribute to related international efforts. to protect the integrity of the international financial system. Providing support to international efforts to combat money laundering was considered to be one way in which this objective could be

achieved. It was decided that IMF should intensify its focus on relevant AML issues, establish a closer working relationship with the major international AML organizations and groups, and include AML concerns in some of its operational activities.

7.1.2 World Bank

The World Bank has expanded ambit of its programs in the areas of anticorruption, governance, and public financial management; and assisted countries in carrying out financial sector reforms focusing on legal, regulatory, and supervisory issues. Its financial sector lending and TA activities rapidly increased, through programs to strengthen legal, regulatory, supervisory, and judicial reforms and institutions, corporate governance, accounting and auditing, and market transparency. It has also focused on financial abuse in its economic and sector work and policy dialogue, and extended technical assistance (T.A) to member countries to strengthen their (Anti-Money Laundering) AML programs. It also initiated various measures to ensure that its own lending is used for the intended purposes and is not subjected to financial abuse. Efforts are made for knowledge sharing, awareness raising, and information exchange for the purpose the Global Dialogue Series and AML/CFT conferences held in Moscow and Montevideo.

7.2 Joint International Monetary Fund and World Bank Initiatives

IMF, and World Bank, have introduced the FSAP providing for Joint IMF-World Bank assessments of the financial sectors of their common member countries. This voluntary program was designed to identify strengths, risks, and vulnerabilities in national financial systems and help promote the soundness of such systems. The FSAP assesses, members' adherence to internationally accepted financial standards, codes, and best practices. They have extended ambit of their activities to observance of standards and codes relating to financial sector standards along with the banking, insurance, and securities sectors.

7.3 Asian Development Bank (ADB's) activities in AML;

Asian Development Bank has been assisting to combat money laundering by incorporating relevant elements in existing policies and strategies to facilitate poverty reduction, promote good governance and anticorruption, and strengthen national financial systems. Consequently these activities have been incorporated,

The strategy adopted by the principal only covers formal agents such as states, financial institutions and banking institutions in order to combat money laundering. The informal agents operating and participating in transaction of money laundering are given little weightage rather only coercive measures are proposed to get such as informal agents barred from their active participation. This strategy of the principal is analyzed in the following model whether it's a viable and rational to exclude these agents or otherwise?

8 Model

All the integrating partners of the financial system such as principal, agent and client, make their decisions rationally while taking into account the available choices and their preferences. They count present value of their costs of making specific decisions regarding their role in system of money transaction and present value of returns from adopting specific role. Informal agents operating and participating in transaction of money laundering also decide their participation in money laundering whole taking into account present value of their costs and returns.

The cost and returns to different agents principal and clients can be modeled along the lines of Becker (1993) who made calculation of present value of cost of investment in human capital and present value of returns from investment in human capital. We modeled the cost of adopting strategy by clients and agents whether to cooperate with the principal to while making decisions on the channels to be followed for transaction of money. As the principal wants the governance of money transactions based on the principal of transparency and monitorability and inhibiting agents and clients to adopt the channel of money laundering. There are i periods and returns Y from cooperative strategy with the principal are assumed to be a stream of real net earnings Y_0 during period one followed by later periods up to Y_n . The term real earnings are defined as the sum of monetary earnings and the monetary equivalent of psychic earnings as by Becker (1993) the present value of net earning stream Y is

$$V(Y) = \sum_{i=0}^n \frac{Y_i}{(1+r)^i} \quad (1)$$

Whereas r is market discount rate assumed for simplicity the same in each period. Assume that there is X non cooperative strategy of the clients and agents with the principal then

net earning stream will be from X_0 to X_n so the present value of gain from of the strategy Y can be found as in equation (2)

$$d = V(Y) - V(X) = \sum_{i=0}^n \frac{y_i - X_i}{(1+r)^{i+1}} \quad (2)$$

This equation can be retransformed for more transparent cost finding so we assume that by adopting the strategy of cooperation the agent and client makes some investment by paying additional taxes and charges for transaction of money through the channel recommended by the principal contrarily there is no additional investment required on transaction of money through the channel of money laundering that is adoption of strategy X. The cost of adoption of cooperative strategy Y relative to non-cooperative strategy X is the difference between their net earnings in the initial period and the total returns would be the present value of the differences between net earnings in later periods. As the agents has to get returns in monetary and other forms in later periods by cooperation with the principal but the clients may not have the same type and quantum of returns.; so by adopting cooperative strategy they may get lesser returns as their stay abroad is shorter and their linked non monetary returns are very few if not zero; so their optimal strategy may the non cooperative one.if

$$C = X_0 - Y_0, k_i = Y_i - X_i, \text{ as } i=1, \dots, n$$

And R is total returns then the gain from Y is given as

$$d = \sum_{i=1}^n \frac{k_i}{(1+r)^i} - C = R - C \quad (3)$$

The value of d is very much a determining variable in decision making process by the rational agent, and clients. The clients and agents want to maximize d which can be maximized in two ways either to maximize R or minimize C. As rules of the game for governance of money transaction are set by the principal along with the control over the process of rule making. With the control of rules by principal the clients have the option either to follow the rules by cooperative strategy and accept lesser d_c or adopt a strategy of non cooperation with the principle and agents and make money transaction through the channel enabling him get higher value of d_n .

Optimal level of $d_c = d_n$ and $d_c - d_n = 0$ and this condition leads to stability of the system of money transaction. The principal will have to bring both the d closer to each other and

make d_c more acceptable for the clients and agents. The more risk averse are the number of clients in and agents in the system financial and banking sectors more will be the probability that non cooperative X strategy is adopted and the principal has to increase value of d_c in order to attract more number of clients and agents with strategy Y. the value of d_c and d_n may be found through monetary and non monetary variables

We may understand the nature of relationship existing between cost and returns with the application of internal rate of return method (IRR) which in this case we may take as a rate discount r which equates the present value of costs to present value of returns as given below;

$$C = \sum_1^n \frac{k_i}{(1+r)^i} \quad (4)$$

$$\sum_{i=0}^n \frac{Y_i}{(1+r)^{i+1}} - \sum_{i=0}^n \frac{X_i}{(1+r)^{i+1}} = d = 0 \quad (5)$$

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The formal and informal agents decide their strategy in view of their expected stream of costs and returns from a particular strategy. There is a pay off matrix for agents and principal along with relative expected gains to each player of the game which is given below;

Principal- Agent's Pay-off Matrix

Principal	Agent	
	Co-operative	Non co-operative
Incentive	(a1,b1)	(a2, b2)
No incentive	(a3,b3)	(a4,b4)

The main objective here is to maximize the social welfare i.e.

Maxi $x_i = a_i + b_i$ subject to constraint $\Delta a_i \geq \Delta b_i$ where $i = 1,2,3,4$

Here a_i and b_i are respectively the gains of principal and agent from different choices of outcomes. With the assumption that both the principal and the agent are working in their own interest, bargaining take place in such a way that each of them try to maximize his gain. The principal has some power to control the behavior of agent by offering incentives in the case of not cheating and penalties otherwise

The game is started from the case where agent activity is harming the principal gain in such away that social welfare is also affected negatively i.e. (a4, b4). Or in other words we can say that gain of agent from his behavior is less than loss of principal.

The best option from the agent point of view is (a2, b2), where he gets benefit from incentives offered by principal as well as by cheating. while from the principal point of view the best option is (a3,b3), where he gains without incurring any cost, but there is no free lunch hence both (a2,b2) and (a3,b3) are not optimal solutions. If agent opts to cheat he may face penalty if caught and if principal does not offer incentives he may lose due to cheating by agent. The only solution left is (a1, b1) with the conditions $a1 \geq a4$ and $b1 \geq b3$. This implies that solution lies in between the two extremes those are (a2, b2) and (a3, b3).

This analysis can be extended to any number of agents and principals as well as clients by additional assumptions.

Conclusion

In view of above discussions it is concluded that the existing strategy of the principal is sub optimal and quasi sustainable as two of the integrating partners of this system of money transaction i.e. principal and agents may cooperate and work jointly to make laws, rules and procedures and attempt to implement these laws so as to make money transactions more transparent and more monitorable,. As the desired objective of the principal is to minimize transaction of money through money laundering channel but it is not the optimal strategy of the agents and clients to minimize transaction through money laundering as the present value of marginal cost of non-cooperation seems optimal as compare with the present value of returns

from transaction of money through money laundering in the existing set of rules and laws and less incentives.

Policy Recommendations

Therefore the principal (International financial regime and developed economies) may have induced more incentives to increase present value of returns from cooperation with the principal and agents. The principal should also reduce present value of marginal cost to the clients which he has to bear by cooperating with the principal and agents. The international financial regimes may make more conducive laws and procedures that enable clients to get money transaction in shorter time and with lesser cost as long as the difference in the cost and benefits increases the non-cooperation increases. Similarly additional charges and taxes and other type of additional costs increase the non-cooperation, therefore the developed world through subsidy or other alternative laws and procedures may reduce the present value of marginal cost of cooperation.

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