

**IMPACTS OF INVESTMENT RELATIONS BETWEEN CHINA AND  
MADAGASCAR**

**AERC Team - Madagascar**

**October 2009**

**Dr RAZAFINDRAVONONA Jean**

**Dr RAKOTOMANANA Eric Jean**

**Mr RAJAobelina Jimmy**

## TABLE OF CONTENTS

TABLE OF CONTENTS .....	ii
LIST OF TABLES .....	iii
LIST GRAPHS .....	iii
1- Introduction .....	1
2- Background.....	3
2-1 Background of FDIs in Madagascar .....	3
2-2 Foreign Direct Investments from China.....	8
2-3 Madagascar’s Attraction and Incentive Policy.....	10
2-4 Madagascar’s Business Environment .....	11
2-5 Madagascar: The Financial and Political Crisis.....	12
2-5-1 International Context.....	12
2-5-2 Effects the Political Crisis in Madagascar.....	14
3- Literature Review .....	16
3-1 FDI Theoretical Elements .....	16
3-2 Risks and Advantages Linked to FDIs.....	17
3-3 Terms of Reference .....	18
4- Methodology and Theoretic Framework .....	19
5- Empirical Analysis.....	21
5-1 Macro-economic Impacts of Chinese FDIs through a CGEM .....	21
5-2 Chinese FDI Specification in the Economy .....	22
5-2-1 Characteristics of Chinese Foreign Direct Investment Companies.....	23
5-2-2 Marketing Channel of Chinese FDI Companies.....	25
5-2-3 Chinese FDI and Inter-company Relations.....	26
5-2-4 Employment in Chinese FDIs.....	27
6- Conclusion and Economic Policy Recommendations .....	30
BIBLIOGRAPHY .....	33
ANNEX 1: Static CGE Model Equations in an Open Economy.....	35
ANNEX 2 : DATA SOURCES.....	40

## LIST OF TABLES

Table 1. FDI Growth Trend from 2002 to 2008.....	3
Table 2. FDI flow structure per activity sector.....	4
Table 3 : Structure of FDI stock in 2005 and 2008 per sector.....	5
Table 5. Structure of FDI stock according to source country in 2008.....	7
Table 5. Chinese FDI flow trend in Madagascar from 2003 to 2008.....	8
Table 6. Structure of Chinese FDI stock by sector of activity.....	8
Tableau 7 : Ranking Madagascar's development in the « Doing Business ».....	12
Table 8. Number of Chinese-Owned Companies in Madagascar. ....	23
Table 9. Structure of Chinese-owned companies and Chinese FDI stock by investmenttype .....	24
Table 10. Clientele structure of Chinese-owned companies in 2007. ....	25
Table 11. Structure of purchases in inputs and external services of Chinese companies.....	26
Table 12. Number of permanent staff in 2006. ....	28
Table 13 : Distribution of permanent jobs per sector in 2006.....	28

## LIST GRAPHS

Figure 1. FDI Flow Trend .....	4
Figure 2 : Chinese FDI trend .....	21

## 1- Introduction

Over recent years, the rapid and spectacular expansion of Chinese economy is an opportunity that should not be neglected by African countries not only in connection with strengthening the South-South cooperation, but also in for the development of African economies. It is crucial to identify the channels by which African countries will derive benefits. The result of the robust and growing intensification of its economic partnership with various countries in the Sub-Saharan Africa. This is the reason why the research project focusing on the impact of China's economic relation with Sub-Saharan Africa was initiated by AERC.

Our research aims at conducting a comprehensive analysis of the main systems and models of the past, present and future development of economic partnerships, based on foreign direct investments, between China and Sub-Saharan African Countries, with particular focus on Madagascar. This will provide a better understanding of the impact of the partnership between the two countries and help identify challenges for African countries development perspectives, as well as to emphasize on articulation of appropriate global policy decisions to be taken by different countries to protect their interest, in view of experienced impacts and challenges to be met.

Foreign Direct Investment (FDI) is a major channel by which China's economic growth impacts are conveyed to the typical African economy. Several research issues arise in this connection:

- In which sectors are FDIs from China channelled?
- To what extent are Chinese FDIs linked with support aid?
- Do FDIs increase capital available for companies, or is it simply an investment interest which does not result in capital increase?
- Are Chinese direct investment companies in search of resources or markets or are they rather targeting the local or external market?
- What economic advantages result from Chinese FDIs in terms of exports, imports, substitution, and contribution to added value and employment?
- Do Chinese FDIs exclude or strengthen national corporate position and how do they involve locale firms?
- What are the effects of Chinese FDIs in the local economy in terms of skills transfer, vertical integration, use of local inputs, chain management and technology transfer?
- How are Chinese FDIs differentiated from FDIs from other sources?

- Is the country also investing in China?

This research will also focus on the following relevant policy issues:

- What are the available mechanisms for encouraging Chinese FDI support and discouraging harmful inputs?
- What policies should be proposed to optimize the positive impact of Chinese FDIs in terms of employment creation, generation of forex, added value, employment, training and transfer of technology?
- To what extent could Chinese FDIs be directed towards the needs of the vulnerable groups?
- To what extent can FDIs be coordinated with other regional economies?
- How can Chinese FDIs be steered towards preferential access to Chinese markets?
- How can the Government ensure optimization of FDI development impacts through Chinese and other FDIs?

Finally, this study shall take into account the following aspects:

- Analysis of the link between FDI and economic performance
- Characteristics of FDIs in Madagascar
- General characteristics of companies in Madagascar
- Analysis of incentives for Chinese investors
- Investment determinant factors in Madagascar
- Madagascar's development potential in terms of high added value activities
- Corporate geographical concentration in Madagascar according to the geographical economy theory (Krugman &...)
- The various types and characteristics of Chinese companies Madagascar
- The various types and characteristics of Malagasy companies operating in China
- Is the Chinese FDI directed to the State or the private sector
- Impacts of Chinese investments
- Links between investment, trade and Aid.

Based on insights from previous research, this project focuses on trade, investment and aid flows as key channels through which the impacts of China may be conveyed to the African economy.

## 2- Background

### 2-1 Background of FDI in Madagascar

A significant change in trend occurred since 2006 on FDI coming into Madagascar. Whereas the 2002 to 2005 sub-period recorded an average annual growth of 9%, the 2006-2008 sub-period in contrast registered an average annual rate of 141%. In terms of GDP, given the massive rise of FDI since 2006, FDI flows went over the threshold by 10%.

At a regional level, Madagascar occupies the 10<sup>th</sup> position in Africa among countries that have recorded the highest FDI in 2007- 4<sup>th</sup> position in Sub-Saharan Africa-behind Tunisia. Within the East African and Indian Ocean Islands region, Madagascar is now the foremost FDI recipient country.

**Table 1. FDI Growth Trend from 2002 to 2008.**

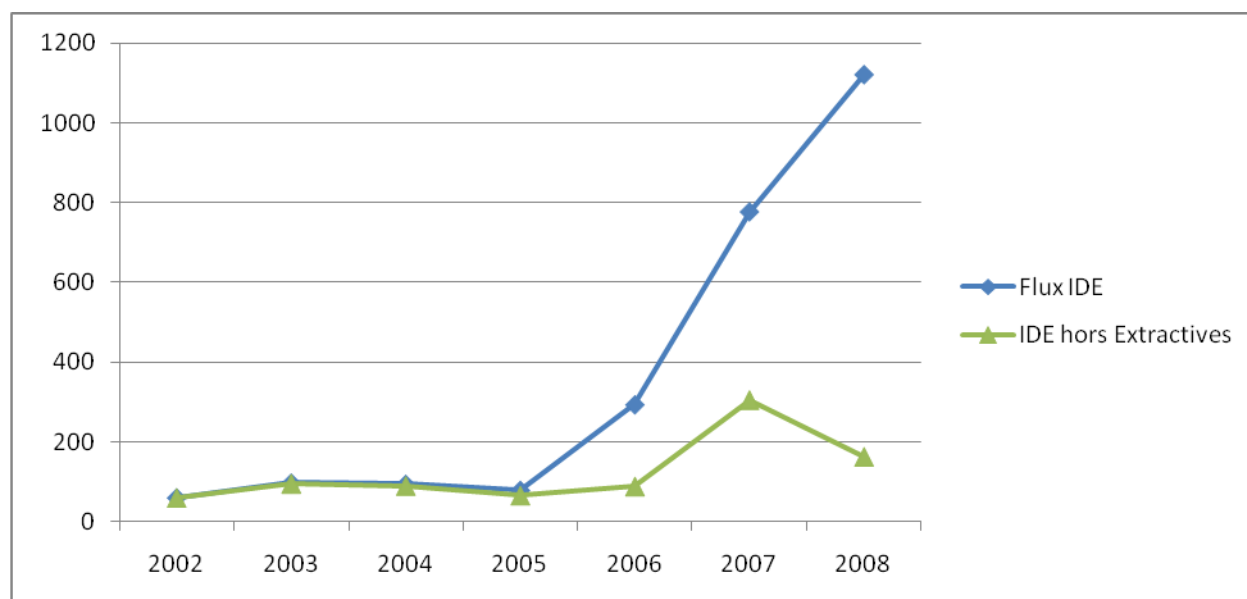
	2002	2003	2004	2005	2006	2007	2008
<b>FDI Flow (in millions of \$ US)</b>	61.11	98.15	94.94	79.84	294.3	777.36	1 120.78
<b>FDI as a GDP%</b>	1.4	1.7	2.2	1.7	5.3	10.5	12.9

**Source:** BCM/INSTAT, authors' calculation.

However, this trend is dominated by a single sector namely, "mining". Indeed, the significance of FDI in the last 3 years is largely attributed to mining projects including: i) extraction of nickel and cobalt by Sherritt Ambatovy / Koreas Resources / Sumitomo / SNC Lavalin, ii) extraction of titanite iron ore ( zircon, monazite) in Fort Dauphin by QIT Fer & Titane (80% Rio Tinto) Mineral Madagascar - QMM.

Beyond "mining" after strong growth in 2007, FDI flows declined significantly in 2008 by 53%. In terms of GDP, FDI flows apart from "mining" are around 2%, except in 2007 (4%). This phenomenon arises from the lack of large multinational firms in the country's economy.

**Figure 1. FDI Flow Trend**



**Source :** BCM/INSTAT, authors' calculations

The sectorial analysis of FDI inflows shows an interesting feature. The structure is different from one year to another for “non-extractive activities”.

In 2006, flows were virtually concentrated in two sectors namely “financial activities” (12%) and “manufacturing activities” (6%). This occurred at a time of reforms initiated by the country's financial sector with support from Millennium Challenge Account (MCA) funds and Madagascar's eligibility to AGOA.

**Table 2. FDI flow structure per activity sector.**

Activity sector	2006	2007	2008
<b>Mining</b>	70,14	60,83	85,52
<b>Telecommunication</b>	0,90	1,98	7,72
<b>Trade and Vehicle repair</b>	2,57	0,06	2,21
<b>Financial activities</b>	12,17	2,59	1,99
<b>Construction/Public works &amp; civil engineering</b>	0,17	16,25	0,92
<b>Distribution of oil products</b>	2,89	7,47	0,85
<b>Fisheries, fish farming, aquaculture</b>	1,22	-1,79	0,34
<b>Real Estate, renting and services provision to enterprises</b>	0,63	0,04	0,28
<b>Transports and related services</b>	2,98	-0,19	0,11
<b>Agriculture, hunting, livestock production and silviculture</b>	0,03	-0,33	0,08
<b>Hotels and restaurants</b>	-0,05	11,74	0,06
<b>Manufacturing activities</b>	6,28	1,07	0,05
<b>Electricity, water and gas production and supply</b>	0,05	0,27	-0,13
<b>TOTAL</b>	100,00	100,00	100,00

**Source :** BCM/INSTAT, authors' calculations

En In 2007, a significant capital input is noted in connection with “construction and public works & civil engineering” (16%) and “hotels and restaurants” (12%). The significance of the first can be explained by two facts. Firstly, there are massive investments in infrastructure due

to the two large mining projects. Then, the policy implemented by the public sector in terms of construction is very crucial.

In 2008, FDI flows, apart from those for "mining" were concentrated in the field of "telecommunication". Indeed, FDI's have filled up Madagascar's infrastructure gaps. To enhance telecommunication network quality in Madagascar, the country with support from various actors in the industry, embarked on the development of fibre optics. Moreover, the intense competition in the sector of mobile telephony and the market potential has encouraged the flow of FDI's in this sector.

This performance should not obscure the stock weakness. The country is still far behind with a 0.46% Africa's stock, bearing in mind that the continent has only 2.6% of the world stock<sup>1</sup>, despite an exponential growth rate over 3 years.

**Table 3 : Structure of FDI stock in 2005 and 2008 per sector.**

Activity Sector	2005		2008	
	Value (10 <sup>6</sup> USD)	Structure (%)	Value (10 <sup>6</sup> USD)	Structure (%)
<b>Agriculture, hunting, livestock production and silviculture</b>	2.70	1.00	2.63	0.08
<b>Fishery, fish farming, aquaculture</b>	25.46	9.43	18.44	0.59
<b>Mining</b>	23.51	8.71	2 287.68	73.32
<b>Manufacturing activities</b>	55.56	20.59	79.96	2.56
<b>Electricity, gas and water production and supply</b>	5.39	2.00	7.38	0.24
<b>Construction, Public works &amp; civil engineering</b>	20.07	7.44	173.97	5.58
<b>Trade and Vehicle repair</b>	17.77	6.59	46.83	1.50
<b>Hotels et restaurants</b>	0.45	0.17	101.15	3.24
<b>Transports and related services</b>	4.69	1.74	7.55	0.24
<b>Financial activities</b>	47.82	17.72	121.75	3.90
<b>Real Estate, renting and services provision to enterprises</b>	14.68	5.44	20.96	0.67
<b>Distribution of oil products</b>	20.47	7.58	113.91	3.65
<b>Telecommunication</b>	28.85	10.69	137.68	4.41
<b>Other sectors</b>	2.45	0.91	0.00	0.00
<b>Total</b>	269.87	100.00	3 119.99	100.00

**Source :** BCM/INSTAT, authors' calculations

The massive investment in the two fore-mentioned mining projects has dramatically changed the landscape of foreign presence in Madagascar's economy.

Before 2006, the "manufacturing" sector was the most popular with foreign investors. Since the establishment of the free trade area in the 90s, the significance of foreign-funded enterprises has steadily increased and strengthened Malagasy industrial fabric towards the

<sup>1</sup> Reference report: FDI in Madagascar in 2007, Economic Mission – French Embassy in Madagascar- Nov 2008.



external market. The FDI stock received by the industry amounted to 20.6% of the total in 2005. However, this position has steadily tumbled since and the branch was only at the 7<sup>th</sup> position out of 13 by the end of 2008.

Since 2006, the “mining sector” has supplanted the "manufacturing sector" in terms of FDI stock. The FDI stock in this sector was 73.3% in 2008. Yet in 2005, it represented only 8.7% of the total.

Moreover, other sectors have experienced a more or less significant boom. Among the 6 branches that have an FDI stock of over USD 100 million, the manufacturing sector is not even featured.

This great change that occurred since 2006 has also spawned an upheaval at the source FDI stocks. The following table gives a comparison between the overall situation and another one without companies in the "mining" sector.

**Table 4. Structure of FDI stock according to source country in 2008.**

<b>TOTAL</b>			<b>Non-Mining Activities</b>		
<b>Country</b>	<b>2008</b>		<b>Country</b>	<b>2008</b>	
	<b>Value</b>	<b>%</b>		<b>Value</b>	<b>%</b>
<b>UK</b>	1 119.31	35.88	<b>France</b>	170.78	20.52
<b>Canada</b>	542.85	17.40	<b>Mauritius</b>	164.86	19.81
<b>Japan</b>	337.08	10.80	<b>Italy</b>	102.04	12.26
<b>South Korea</b>	236.00	7.56	<b>Japan</b>	101.17	12.16
<b>France</b>	170.78	5.47	<b>Bahrain</b>	88.25	10.60
<b>Mauritius</b>	163.86	5.25	<b>USA</b>	41.91	5.04
<b>Bermudas</b>	158.83	5.09	<b>China</b>	60.65	7.29
<b>Italy</b>	102.25	3.28	<b>Switzerland</b>	19.66	2.36
<b>Bahrain</b>	88.25	2.83	<b>Bangladesh</b>	15.01	1.80
<b>China</b>	60.66	1.94	<b>Netherland</b>	10.74	1.29
<b>USA</b>	41.92	1.34	<b>Reunion</b>	9.20	1.11
<b>Switzerland</b>	19.66	0.63	<b>Luxembourg</b>	9.00	1.08
<b>Bangladesh</b>	15.01	0.48	<b>UK</b>	7.99	0.96
<b>Netherland</b>	10.74	0.34	<b>South Africa</b>	7.74	0.93
<b>Reunion</b>	9.20	0.29	<b>South Africa</b>	7.65	0.92
<b>Luxembourg</b>	9.00	0.29	<b>India</b>	6.06	0.73
<b>South Africa</b>	7.74	0.25	<b>Belgium</b>	4.00	0.48
<b>Sweden</b>	7.65	0.25	<b>Ireland</b>	1.40	0.17
<b>India</b>	6.07	0.19	<b>Germany</b>	1.32	0.16
<b>Others</b>	13.12	0.42	<b>Others</b>	2.87	0.34
<b>TOTAL</b>	3 119.98	100.00	<b>TOTAL</b>	832.28	100.00

Source : BCM/INSTAT

Source : BCM/INSTAT

Given the FDI significance in the "mining" sector of the first 4 foreign country investors in Madagascar are of particular interest. These are: the United Kingdom (36%), Canada (17%), Japan (11%) and South Korea (8%).

For other activities apart from "mining" the major Investors are: France (21%), Mauritius (20%), Italy (12%), Japan (12%), Bahrain (11%), United States (5%), China (7%), Switzerland (2%) and Bangladesh (2%).

France and Mauritius, Madagascar's traditional partners, come only after mining investors. Apart from "extractive activities", France is in the 1<sup>st</sup> position with 21% and Mauritius is 2<sup>nd</sup> with 20%.

The French presence is the most diversified. In fact, France is present in virtually all other branches. Besides "extractive activities", the other sectors are mainly, "construction industry and public works (25%)", "Financial activities" (24%), distribution of petroleum products (18%), "Telecommunications" (6%), "Manufacturing" (6%), "Trade" (5%) and "Real estate, renting and business services (5%)". Furthermore, they invest primarily in "subsidiary" companies with 70% of the entire stock.

As for Mauritian interests, they are concentrated mainly in the 5 branches: "distribution of petroleum products (50%), "financial activities" (28%), "telecommunications" (8%), "manufacturing activities" (6%) and "Trade" (5%). In a like manner to French, they prefer subsidiary companies, as a form of equity sharing, with 77% of their total stock of FDI

## 2-2 Foreign Direct Investments from China

In this section, FDI from China will be studied in detail. First, a flow analysis will provide the investment relationship trend between China and Madagascar in the private sector. Then, an analysis of stocks by industry activities will provide clarification on the preferred activities by Chinese investors and the Chinese presence in the economy.

**Table 5. Chinese FDI flow trend in Madagascar from 2003 to 2008.**

	2003	2004	2005	2006	2007	2008
<b>Chinese (in millions of USD)</b>	-1.66	16.24	2.59	2.89	2.56	-1.85
<b>China's Share (% total FDI)</b>	-1.69	17.11	3.25	0.98	0.33	-0.16

**Source:** BCM/INSTAT, authors' calculation

From 2003 to 2008, FDI from China amounted to around USD 20 million (cumulative period) in total. After a record peak in 2004, the average was 1.6 million USD over the last 4 years (2005 to 2008). The year 2008 has even been a disinvestment of - 1.85 million. The situation observed in 2008 can be explained, on one hand, by the repayment of loans made by Chinese companies in Madagascar to their shareholders, and on the other hand by the poor performance in the year 2007.

This disinvestment was recorded mainly in the "financial activities" sector. Indeed, its FDI stock has experienced a fall of -67% between 2007 and 2008. This is mostly due to poor results in 2007 which led to a decline in corporate capital. The table below shows China's interest in the private sector in Madagascar.

**Table 6. Structure of Chinese FDI stock by sector of activity.**

Sector	2007		2008	
	Value (10 <sup>3</sup> USD)	%	Value (10 <sup>3</sup> USD)	%
Agriculture	0.00	0.00	2.66	0.00
Mining	0.00	0.00	8.85	0.01
Manufacturing	27 079.84	43.39	27 153.54	44.76
Construction & Public Works	20 188.78	32.35	18 952.36	31.24
Trade	73.22	0.12	345.93	0.57
Transport	7.78	0.01	7.73	0.01
Banking	1 702.49	2.73	553.63	0.91
Housing & service provision to enterprises	10.57	0.02	276.04	0.46
Telecommunication	13 349.18	21.39	13 362.71	22.03
<b>TOTAL</b>	<b>62 411.85</b>	<b>100.00</b>	<b>60 663.46</b>	<b>100.00</b>

**Source :** BCM/INSTAT, calcul des auteurs

Thus, three lines of business are the main beneficiaries of FDI in China. These are "manufacturing activities", "Building Construction and Public Works " and "Telecommunication".

Compared to the overall FDI stock, the China's weight is 45% in "manufacturing sector" 14% in "construction and Public Works" and 13% in "telecommunication". Therefore, the contribution of Chinese FDI financing in these industries is not negligible.

Similar to China's policy<sup>2</sup> which is implemented by the central government, these 3 branches represent the priority areas of the China's FDI in Africa. In fact, China's FDI in Africa mainly focuses on manufacturing, mining, construction and service provision sectors. Moreover, the central government encourages investment in Chinese firms: i) industry (with the expertise of Chinese companies), ii) agriculture, iii) natural resources and iv) infrastructure.

However, in terms of actual business, the "trade" industry has the highest number which is 65% of the total. However, FDI stock from China represents only 0.5% of the total. The following table provides details in this regard. The ownership to a group of companies is very low for Chinese companies operating in this industry.

## 2-3 Madagascar's Attraction and Incentive Policy

In order to attract foreign investment and foster domestic investment, Madagascar has established a number of programs whose main objectives are to improve the country's image and simplify procedures.

First, in 2003, in the Poverty Reduction Strategy Paper (PRSP)<sup>3</sup>, programs to achieve the objectives of strategic goal No. 2: "encourage and promote economic growth through an expanded social base to demonstrate the importance of foreign direct investment in the development and revitalization of the private sector.

The main activities were related to: (i) the establishment of a franc free corridor, (ii) development of an investment promotion strategy, (iii) development of special industrial areas, (iv) support the creation of a platform for exchange between domestic and foreign operators, (v) renegotiate the use of guaranteed funds to better meet the needs of businesses, (vi) effective implementation of a conveyance fund system, (vii) the establishment of a financing system for MSMEs as well as incentives for formalizing the informal sector, (viii) the establishment of a set of incentives and attractive measures for sub-contracting and partnership, (ix) definition and implementation of a development strategy of local production inputs; (xii) promotion of decentralized cooperation...

The main impact of these measures will be, among other things, the reduction of the processing time records and the promotion of partnerships.

Next, through the Madagascar Action Plan 2007-2012 (MAP)<sup>4</sup>, the Council for Economic Development of Madagascar (EDBM) was established in 2006 to facilitate and promote the development of local private and foreign investment. The EDBM is responsible for making the investment climate attractive for private companies and conducive to their success. In its commitment No. 6: "High Growth Economy", challenge No. 2 is to increase Foreign Direct Investment (FDI).

To this end, the policy of promoting FDI has set the following objectives: i) to make Madagascar the most preferred destination for investment in Sub-Saharan Africa and the Indian Ocean region; ii) to have economic growth in double figures in 2012 iii) to broaden the tax base in the medium and long term iv) to promote foreign investment in sectors where value added, job creation, integration and multiplier effects in other sectors will be maximized.

Therefore, strategies are: i) the establishment a competitive business environment, ii) security of investments and trade, iii) intensive promotion of Madagascar to attract

---

<sup>3</sup> PRSP, as updated in July 2003.

<sup>4</sup> MAP, 2007-2012 Madagascar Action Plan: « Madagascar Naturellement », February 2007.

investments iv) provision of infrastructure support investment (energy, industrial areas, land ownership); v) initiation of international agreements to increase investor confidence and market access; vi) elimination of distortions in the economy.

We recall that investment in Madagascar is governed by several laws including Act No. 96-015 of September 13, 1996, which sets out the general guarantee offered to investors as well as Act 2007-036 of January 14, 2008. To secure investor input and confidence, Madagascar joined the Multilateral Investment Guarantee Agency (MIGA / OGD) in order to protect investors against non-commercial risks. Madagascar is also a signatory to the Agreement establishing the Agency for Trade Insurance in Africa known as the African Trade Insurance Agency (ACA / ATI) to cover such policy risks affecting trade and financial transactions.

Finally, bilateral agreements on protection and promotion of investments<sup>5</sup> have been ratified by Madagascar. These agreements were concluded with Germany (1962), Switzerland (1964), Norway (1966), Sweden (1966), France (2003), Mauritius (2004), China (2005), Belgium and Luxembourg (2005), Germany (2006) and South Africa (2006). Other treaties have been ratified by Madagascar: Investment Agreement for the COMESA Common Investment Area (2007).

## **2-4 Madagascar's Business Environment**

The establishment of a conducive business environment was the Government's top priority in its policy for promoting and encouraging foreign investment in Madagascar. The business environment affects multiple areas ranging from procedures to establish enterprises to the macroeconomic and political stability.

However, given the objective of comparability, we shall at this juncture use the findings of the "Doing Business" study conducted by the World Bank. This study has 10 key areas related to the business environment. These are: i) Establishing companies ; ii) granting building permits; iii) hiring workers iv) ownership transfer; v) obtaining loans; vi) investor protection; vii) payment of taxes; viii) cross-border trade ix) contract performance; x) the closure of businesses.

---

<sup>5</sup> World Investment Directory, Volume X. Africa, UNCTAD 2008

**Tableau 7 : Ranking Madagascar's development in the « Doing Business »**

<b>Ease of</b>	<b>Doing Business 2009</b>	<b>Doing Business 2008</b>	<b>Ranking variation</b>
Starting a company	58	65	7
Dealing with construction permits	102	136	34
Employing workers	153	157	4
Registering Property	145	168	23
Getting Credit	172	171	-1
Protecting Investors	53	49	-4
Paying Taxes	92	89	-3
Trading Across Borders	109	127	18
Enforcing Contracts	153	153	0
Closing a Business	181	181	0

**Source:** Doing Business 2009: Country profile Madagascar, WB

Among the 181 countries studied by the World Bank Madagascar's ranking went up by seven positions between 2008 and 2009. Madagascar's rank in dealing with construction permits, registering property and trading across borders has experienced a huge increase in one year. However, Madagascar lost its position in terms of protecting investors, paying taxes and getting credit.

Improving the procedure for dealing with building permits is first of all the consequence of the reducing processing timeframes and costs. Compared to all countries in Sub-Saharan Africa, the progress of that country is significant.

In contrast to that, there is stagnation in the area of investment protection. The index of protecting investors has stagnated between 2008 and 2009. Compared to some countries in the sub-region, the country is far behind Mauritius, which stands at the 11<sup>th</sup> position, but it comes before Kenya (88) and Comoros (126).

## **2-5 Madagascar: The Financial and Political Crisis**

### **2-5-1 International Context**

Since the summer 2007, activities are moving backward, due to the impact of U.S. real estate sector downturn on global financial markets from August 2007, and rising commodity prices - the oil barrel price hit a record \$ 147 a barrel in July 2008. In one year, activity has slowed in almost all industrialized countries; it even contracted in the 2<sup>nd</sup> and 3<sup>rd</sup> quarter in the euro zone and Japan and in the 3<sup>rd</sup> quarter in the United States and the United Kingdom. If it has generally been relatively resilient in emerging countries, it has slowed in the third quarter in China.

From mid-September 2008, the financial crisis has worsened considerably, especially after the bankruptcy of Lehman Brothers, causing a tightening of credit availability and falling stock prices. The generalized situation of mistrust pushes financial institutions to reduce their gear and restrict credit to households and businesses.

The consequences of the financial crisis on the real global economy are multiple: credit rationing, lower confidence and negative wealth effects. Thus, global growth prospects for 2009 appear very bleak.

In this context of uncertainty surrounding the outlook of the global economy there has been a decline of oil and raw material prices.

Actually, the current global financial crisis is a not concern limited only to developed countries and emerging countries. In fact, African countries are not immune to the devastating effects of this crisis. Therefore, effects of the crisis on African economies appear as follows:

- A drop in export earnings because of the declining world demand particularly for commodities supplied mainly by Africa.
- The downturn in the markets of our traditional partners, mostly the western world would automatically lower demand for goods and services in Africa, for example in tourism, export of fish products, ...
- By avalanche effect, the decline in export earnings will be followed by a fall in national income, the decrease of investment capacity, the weakening of domestic demand from both public and private consumers, resurgence of unemployment, inability to cope with debt service, especially foreign debt, impossibility of achieving MDGs, etc...

If sub-Saharan Africa benefited from private capital flows of almost \$ 55 billion, its GDP grew by 5.7% in 2006 and 6.1% in 2007, and was due to the growing external assistance, in form of new equity and debt forgiveness. Then the financial crisis occurred, followed by the collapse of global economy. This situation has led to pressure in Africa, with a decline in tourism revenues, remittances from abroad and export earnings. Foreign investments have quickly begun to dry up. African exchanges have declined, for example, Ghana and Kenya had to postpone far more than 800 million dollars in sovereign bond issuances, delaying the implementation of road toll and pipeline projects. For oil exporting countries, lower oil prices raised the GDP loss spectrum by 15% in 2009.

The principles of market economy enabled 64% of Africans to benefit from a standard of economic growth of around 5.9 to 8.1% per year between 1997 and 2007. The financial crisis has also aggravated the situation of more vulnerable African economies that do not have enough capacity to absorb economic shocks. According to the World Bank, the projection of the economic growth would be at 4.5% in 2009.

In terms of trade, African countries continue to lose their market share, whereas in the '80s, their world market share in exports was 7%, it reduced to 3% by 2007.

These major developments have serious consequences in human terms. Due to worsening economic performance, infant and child mortality tends to rise, and completion rates in primary schools tend to drop. The majority of African countries were already in the process of failing to achieve Millennium Development Goals (MDGs), including the goal to halve poverty by 2015. The current crisis will make it hard to achieve MDGs. According to



estimates, in South Africa, there are around 64 000 jobs the mining sector, that were recently lost in a period of a few months.

Poor as its integration might be, Madagascar is still part of the global system although this is not in a uniform manner. The main channels that could be identified are:

- Growth reduction, lower rates of economic growth (GDP / capita).
- The reduction of commercial transactions affecting the decline of international demand, hence the decrease of our exports (raw materials and exports to countries in crisis may undergo drastic changes)
- Loss of employment in enterprises, especially exporters
- Flows of FDI towards developing countries may be hampered or even decline,
- A likely decline in foreign exchange reserves ,
- A likely drop in credit to the economy,
- An eventual decline in external financial assistance.

### 2-5-2 Effects the Political Crisis in Madagascar

Political, economic and social instability in Madagascar originate from government practices. The concept of the roles and functions of the State is not consistent with the principles and basic concepts of the rule of law and democracy whose essential elements are: the separation of powers, independence of justice, the recognition of rights and freedoms of citizens, power alternation, political pluralism, appointment of leaders through elections and the social concept of social admissibility.

After a half-century of independence, Madagascar has yet to find the legal forms and political practices to ensure power stability. The 2009 political crisis revealed once again that the country's history is punctuated by a constant recurrence of popular uprisings and clashes that have taken place alternately. A mix of which is typically described as "undemocratic" by the international community is therefore not recognized as legitimate by the said community.

The aim of the African Union and the International Community is the restoration of constitutional order, which should "be based on the following objectives and principles: a clear timetable for free, fair and transparent elections, participation of all political and social actors in the country as well as promotion of consensus between the parties and respect for the national constitution".

This political crisis is automatically followed by a recession. It has involved the closure of some companies, layoffs, job losses, an erosion of purchasing power and a downturn in growth sectors. The economic growth rate originally planned at 7.5% was revised to 0.7%. In fact, the tax burden tended to reduce with a resultant accumulated deficit in tax revenues in the first half of 2009 declined by 25% of the projected rate.

The drop in production led to higher prices because the excess demand over supply boosted the price level. Madagascar's exports recorded significant decreases of 63% June 2009 compared to the figure over a year ago. The same applies to tourism. Indeed, the trade balance continues to deteriorate. The global financial crisis also affects the demands in

vanilla, fish products and lychees, which are luxury products that developed countries are doing without for the moment. As a result, the initial 2009 budget was lowered through a policy of fiscal austerity

## 3- Literature Review

### 3-1 FDI Theoretical Elements

**It is important to review the basic theories explaining the formation of private investment and generate the results already found by other researchers in the developing countries especially in Africa.**

*Theoretically, private investments are determined by:*

- The real factors via the accelerator effect of growth (Atalio, 1908 and Clark, 1917)
- Financial factors in the effect of interest and credit rationing (Keynes, 1936)
- Others factors such as the political instability and macroeconomic risk.

Recent studies (Serven and Solimano, 1992) challenged the Keynesian theory in determining private investment. It is not only the interest rate that influences investment decisions but there are other economic factors. Kamgnia and Mama (2002) developed this new vision and found other factors such as the effect of public investment (ripple effect and/or crowding out effect), imperfections in the capital markets (volatility of the exchange rate), effects of debt and effects of macroeconomic policy adjustments.

Results found previously showed the importance of economic factors in determining private investment in developing countries. Agenor et al. (2000) showed in a cross-sectional study conducted on panel data, the positive correlation between investment rates and growth rates.

#### *Some concepts on FDI*

Dunning (1993) found that cost, market, competitiveness, competition and investment climate are factors that come into consideration in the formation of FDI. He proposed a typology of factors motivating investors to relocate to a country that is "Resources Seekers, Market Seekers, Efficiency Seekers, Strategy Asset or Capability Seekers". He developed this theoretical framework in 1997 and came up with three main factors that attract FDI into a country: "ownership advantages, internalization advantages, Localization advantages" (SchneFDIr and Frey, 1985)

SchneFDIr and Frey (1985) also found that FDI in developing countries is an increasing function of the growth rate of GNP as opposed to inflation, external deficit, cost of production factors and political instability. The results of the study of Bhattacharya and al. (1997) showed that the growth of GDP, the openness of the economy to the exterior and the variability of real exchange rates are key factors that attract FDI.

Romalahy and Rajamarison (2008) used econometric methods as Agenor did, to determine an FDI function for Madagascar. They used 10 variables in view of existing

literature, results previously obtained and the specificity of the Malagasy economy. These variables are: gross fixed capital (equivalent of public investment, the ratio of private sector credit, the rate of real effective exchange ratio of debt service on long-term inflation, GNP per capita, bank interest rate, growth rate of GDP and taxes on foreign trade.

They discovered that in the long term the main variable explaining FDI is the ratio of private investment. Other variables that attract Malagasy FDI are the GDP growth rate and the openness of the economy. In the short term, only the ratio of private investment has a positive influence on FDI. In short, most of these authors use econometric models (co-integration, instrumental variable models)

### **3-2 Risks and Advantages Linked to FDI**

*According to Malcolm Gillis, Dwight H. Perkins, Michael Roemer and Donald R. Snodgrass, in their book "Economic Development" There are 5 advantages to draw from foreign investment:*

- **Transfer of capital from rich to poor countries that includes the establishment of multinationals**
- **Job creation in the host country**
- **Technology transfer**
- **Recruitment of managers**
- **And access to global markets;**

To obtain the maximum of expected benefits from FDI, they argue that governments in developing countries must apply a range of restrictions and incentives such as: functional requirements, criteria for local ownership, and restrictions on repatriation of profits, monopoly privileges and tax exemptions.

*The study on "Foreign Direct Investment for Development - maximize benefits and minimize costs" initiated by the OECD highlights the impact of FDI on the economy by 5 points:*

1. *Trade and Investment*
2. *Technology transfer*
3. *Improving human capital*
4. *Competition*
5. *Business Development*

In conclusion, the report of the study conducted by the OECD, said that "the economic benefits from FDI are undeniable, but they are not automatic. To maximize profits, it is essential that companies have the conditions that promote local investment as well as foreign investment, which encourage innovation and improvement of skills and contribute to a competitive environment"

***The Economic Report on Africa 2007: “Accelerating Africa's Development through Diversification”***, the Economic Commission for Africa and the African Union, referred to China and India as engines of growth in Africa through trade and foreign direct investment. However, in the same report, they say that there are several concerns on the growing influence of the two countries:

- Lack of respect of labour rights
- Lack of environmental protection
- The reason, according to the report, is that there is little or no pressure at all from the civil society; and
- The increase of Chinese migrant workers, which undermines capacity building.

***UNCTAD and UNDP report entitled "Asian Foreign Direct Investment in Africa: Towards a new area of cooperation among developing countries"*** refers to the tendency of Chinese FDI, Chinese policy towards FDI, the characteristics of Chinese FDI in Africa and the trend of FDI received by China.

The report highlights the evolution of Chinese FDIs that are concentrated mainly in neighbouring countries before experiencing an extraordinary expansion during the last 2 decades. Although FDIs to the continent remain low in value, in absolute terms the flow of Chinese FDIs in Africa has undergone major changes since 2004. FDIs have played an important role in Chinese international economic cooperation. The report argues that this phenomenon is the result of the economic policy implemented by the Chinese government, particularly regarding FDIs.

These case studies highlight the motivations of Chinese investors in Africa namely: i) direct access to market, ii) increasing market penetration, iii) securing access to natural resources <sup>6</sup>, iv) utilization of used machines and iv) the circumvention of quotas imposed on Chinese products.

### **3-3 Terms of Reference**

The economic prospects of Madagascar are generally good in the short and medium terms. Building on significant flows of foreign direct investment (FDI) in mining and an increase in overseas development assistance, the authorities projected an average annual economic growth of around 8 per cent over the period 2007-11.<sup>7</sup>

Mining investments in particular, then economic growth should lead to increased imports, including necessary materials and equipment for mining. Despite the deterioration of external current account, which should result in (20 per cent of GDP) and should continue even with the mineral exports (due to payments of dividends), the balance of payments should remain in surplus (with official reserves Gross estimated at 3.9 months of imports by 2010, excluding

---

<sup>6</sup> See GRAIN report

<sup>7</sup> According to IMF, the economic annual growth should be about 5.6 % in 2007 and 2008 compared to 4.7 % in 2006. The exports volume should have increased from 3.8 % in 2006 to 4.1% in 2007 and 5.2 in 2008.

from mining projects) due to strong inflows of FDI. Such performance is supposed to achieve (this period) objectives of the MAP whose authorities, in collaboration with the IMF and World Bank have estimated the cumulative costs (projects in governance, health, education, among others) at 11.6 billion U.S. dollars, the financing plan being far from complete<sup>8</sup>.

In this context, the study will highlight the emergence of the Chinese syndrome in economy and a strong appreciation of the Ariary fact on FDI flows that may impede performance of the export of traditional products.

## 4- Methodology and Theoretic Framework

This study complements the one carried on previously and shall seek to further develop the information required for a better understanding of the real impacts of China's FDI on the national economy.

Notwithstanding the above-mentioned objectives, it is necessary to have a lot of information. It is in this connection that we will need to use the available data. Thus we shall inevitably have to contact authorities that have FDI information. We shall also need to carry out a brief survey with FDI companies.

This research therefore revolves around the precepts and paradigms of a participatory approach, favouring involvement, ownership and empowerment of various categories of concerned key players, including policy makers and stakeholders. The process will attach particular importance to the perception and recommendations of key players and stakeholders with a view of making improvements and readjustments to the implementation of the Government's policy in present and future phases. .

The research also intends to feature the qualitative assessments of key players, policy makers and stakeholders supported by quantitative data and qualitative indicators or proven by success stories, good practices or paradoxically by cases of failure or weaknesses at various levels.

**Data base** : data on foreign direct investments, data on balance of payments, detailed data on trade between 1995 and 2008, macroeconomic data, data on public aid for development, etc.

**Collection and Interviews**: This phase shall mainly target qualitative information collection. It will involve interviews with key persons and collection of qualitative information from concerned bodies such as the Ministry of Economics, Trade and Industry, the Chinese Embassy; Business Associations, etc. This phase could include collection of available quantitative data from these entities

The tools will include interview manuals that will be used for conducting interview sessions systematically organised for various categories of the target groups.

Focus group sessions shall be conducted in the form of semi-structured interviews with pre-defined themes and content that takes into account the comprehension level of stakeholders and the need to obtain reliable and practical information.

---

<sup>8</sup> IMF (2007c).

**Methodology:** The following methodology will be used:

- Identification of information needs
- Methodological Design including the development of collection tools
- Collection of baseline data
- Documentary research on the issue
- Light Survey
- Exploitation and analysis of baseline data, data and information collected using advanced statistical techniques (descriptive analysis, multidimensional data analysis, and econometrics).
- Indicator analysis : Trade Structure, Trade Balance, Trading, Effective exchange rates, Foreign Direct Investments Directs, Portfolio Investments, GDP, GNP, OB, etc.
- Analysis of impacts of trade between China and Madagascar
- Information analysis
- Policy Analysis
- Use of documentation to steer the analysis.
- Drafting the report.

### **Processing and analyzing primary and secondary data and literature**

This phase will focus of exploitation of existing data bases, data entry, checking and analysis and literature compilation. Perusal and processing of data will be done as it becomes available so as to meet the time limit set for the study. More specifically, this phase will be essentially based on:

- Checking and validating data collected from the concerned bodies
- Re-exploitation of existing data according to the study's need
- Plotting tables and graphs to understand the quantitative and qualitative data
- Using advanced statistical tools (multidimensional analysis, econometric analysis, etc.).
- Literature compilation

At the end of this phase, the study will provide a quantitative and qualitative characterization of the impacts of investments relations between China and Madagascar.

### **Expected Results**

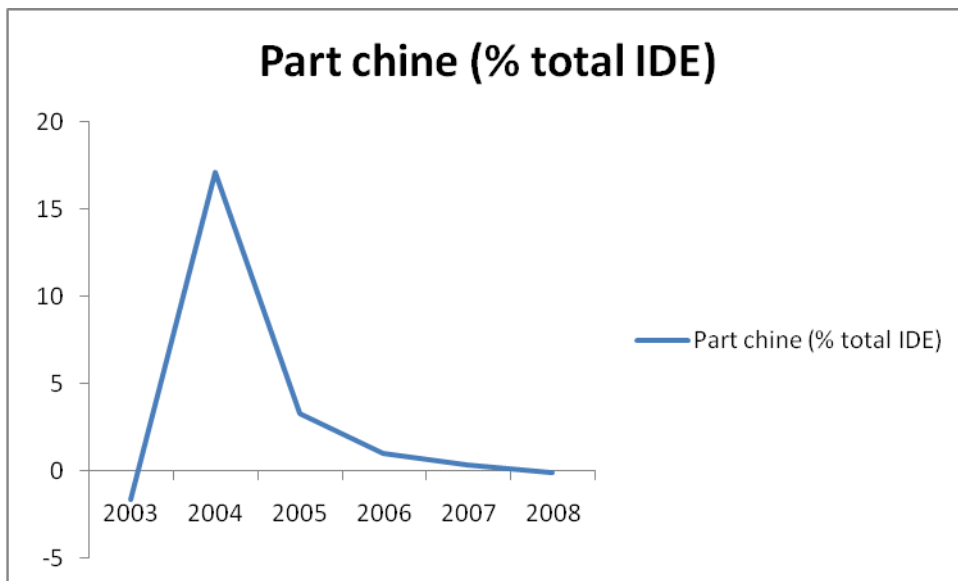
- In view of the specific objectives of the methodology used, the expected results of the research proposal shall be a research report in electronic format encompassing all the above-mentioned objectives and files of the data collected and used during the research phase.

## 5- Empirical Analysis

### 5-1 Macro-economic Impacts of Chinese FDIs through a CGEM

The flow of Chinese investment accounted for 17.11% of total FDI in 2004. In 2008, it was -1.16%.

**Figure 2 : Chinese FDI trend**



**Source:** authors' calculations

This fluctuation of Chinese FDIs in Madagascar contributes to the fluctuation of the Malagasy economy. The Chinese FDIs are mainly in the manufacturing industry, construction and telecommunications. **From 2007 to 2008**, the manufacturing and the telecommunications industries increased respectively by + 1.37 and 0.64 points while the construction industry fell by -1.11 points (see previous Table 7). Given the importance of these industries for Chinese FDIs, what are the effects of these changes on growth and other economic aggregates? The answers to this question refer us to the application of the CEGM.

If our assumptions are correct, the impact of shocks of the three industries mentioned above on the Malagasy economy are likely :

**a) Increase of 1.37 points of manufacturing FDI from China:**

An increase of FDI in manufacturing of about 1.37 points from China has resulted in:

- Increase of 0.036 GDP point
- Increased level of intermediate consumption of 0.16 points which may result in an increase in the construction of 0.06 point.



### **b) Decrease of 1.11 points of construction FDI from China**

If an assumption of declining FDI in construction of 1.11 points from China is true. There is a tendency to an overall decline and thus, a contraction in domestic demand, i.e.:

- Fall in GDP of 0.023 point
- Lower consumption of 0.024 point
- Lower demand for intermediate products of 0.14 point.

### **c) Increase of 0.64 point of Telecommunication FDI from China**

Where the assumption of a 0.64 point increase in FDI in the Chinese telecommunications industry is verified. The GDP will increase by + 0.0014 points and national production service will increase by 0.34 point.

It is important to mention that:

- The impacts of other Chinese investments in other areas are not very significant for the Malagasy Economy.
- Even minimal, FDIs from China in production and construction have significant impacts on the Malagasy economy.
- The above results are not always symmetrical and the reciprocal is not necessarily the reverse of the figures given.

## **5-2 Chinese FDI Specification in the Economy**

In Madagascar, few studies examine the impact of FDI in the economy; they are almost nonexistent when speaking specifically of Chinese FDI. However, theories on the eventual impact of FDI are many and can be used to understand the subject.

On the one hand, many publications<sup>9</sup> relate the impact of FDI on the recipient economy on a few points: i) Trade and investment, ii) Technology transfer, iii) Improvement of human capital; iv) Competition and v) Business development

On the other hand, UNDP and UNCTAD<sup>10</sup> argue that the motivations of Chinese investors in Africa namely: i) direct access to market, ii) increasing market penetration, iii) securing access to natural resources, iv) the utilization of used machines and iv) the circumvention of quotas imposed on Chinese products.

The objective of this part is to identify the specificity of Chinese FDI in trade with a view to highlighting their motivation profile and their possible impacts on the economy, namely, economy, trade, employment, and inter-company relationship.

---

<sup>9</sup> Malcom Gillis, Dwight H. Perkins, Michael Roemer et Donald R. Snodgrass, in their book « *Development Economics* », 2<sup>nd</sup> édition

OCDE, « FDI for development – maximizing profit and minimizing cost »

<sup>10</sup> « Asian foreign direct investment in Africa : Towards a new area of cooperation among developing countries », UNCTAD/UNDP, 2007

## 5-2-1 Characteristics of Chinese Foreign Direct Investment Companies

In the context of this study, it is important to point out the various characteristics that can shade light on not only understanding the motivation of Chinese investors but also the potential impacts both negative and positive, of these investments in the economy. One of the crucial issues is the ownership of these Chinese investment companies by multinational groups. In fact, the penetration of the latter in the economic environment of the country is one of the conditions that foster transfer of technology. Next, there is the issue of the type of investment chosen by investors. The analysis of this issue can help us to shade light on the behaviour of Chinese investors in the way they operate companies. The question is to know whether or not there is collaboration with local investors.

The distribution of companies by activity sector shows one of the specificities of Chinese investments in Madagascar. In fact, contrary to the distribution of FDI stock, the Trade sector represents 65% of Chinese FDI companies. This phenomenon shows the existence of numerous small scale investors in this sector and who subsequently encourage the migration of Chinese into Madagascar and a flooding of Chinese products. The weak percentage of ownership to a multinational group to this sector testifies to this fact.

**Table 8. Number of Chinese-Owned Companies in Madagascar.**

<b>Sector</b>	<b>Staff</b>	<b>% Belonging to a group</b>
<b>Agriculture</b>	1	100,0
<b>Mining</b>	1	100,0
<b>Manufacturing</b>	13	61,5
<b>Construction and Public works</b>	4	25,0
<b>Trade</b>	51	9,8
<b>Transport</b>	2	0,0
<b>Banking</b>	1	100,0
<b>Housing &amp; service to enterprises</b>	4	0,0
<b>Telecommunication</b>	1	100,0
<b>TOTAL</b>	78	23,1

**Source :** BCM/INSTAT, calcul des auteurs

After the "trade" sector that of "manufacturing activities" comes in 2nd position in terms of numbers with 17% of Chinese enterprises. Majority of them (61.5%) are a subsidiary of foreign companies.

In terms of Chinese investments size the telecommunication company has until now the largest Chinese investment project in Madagascar with an FDI stock of 14 million USD. Then, there is the investment sector of "Construction and Public Works" where a company receives an average of 4 million USD in FDI stock. Enterprises from the "manufacturing" sector only come in 3<sup>rd</sup> position with an average of 2 million USD in FDI stock. The positions occupied by these first two sectors can be explained particularly by the existence of large-sized FDI enterprises. Table 8 actually shows the low significance of these sectors in terms of workforce.

**Table 9. Structure of Chinese-owned companies and Chinese FDI stock by investment<sup>11</sup> type**

<b>Sector</b>		<b>Affiliated<sup>12</sup></b>	<b>Subsidiary<sup>13</sup></b>	<b>Branch<sup>14</sup></b>	<b>TOTAL</b>
<b>Agriculture</b>	Staff as %	0.0	100.0	0.0	100.0
	FDI Stock as %	0.0	100.0	0.0	100.0
<b>Mining</b>	Staff as %	0.0	100.0	0.0	100.0
	FDI Stock as %	0.0	100.0	0.0	100.0
<b>Manufacturing</b>	Staff as %	7.7	76.9	15.4	100.0
	FDI Stock as %	0.0	97.1	2.9	100.0
<b>Construction &amp; Public Works</b>	Staff as %	25.0	50.0	25.0	100.0
	FDI Stock as %	0.0	13.6	86.4	100.0
<b>Trade</b>	Staff as %	16.7	31.3	52.1	100.0
	FDI Stock as %	25.7	16.4	57.9	100.0
<b>Transport</b>	Staff as %	0.0	100.0	0.0	100.0
	FDI Stock as %	0.0	100.0	0.0	100.0
<b>Banking</b>	Staff as %	0.0	100.0	0.0	100.0
	FDI Stock as %	0.0	100.0	0.0	100.0
<b>Housing &amp; Service Provision to companies</b>	Staff as %	50.0	25.0	25.0	100.0
	FDI Stock as %	97.3	0.8	1.9	100.0
<b>Telecommunication</b>	Staff as %	0.0	100.0	0.0	100.0
	FDI Stock as %	0.0	100.0	0.0	100.0
<b>TOTAL</b>	<b>Staff as %</b>	<b>16</b>	<b>45</b>	<b>39</b>	<b>100</b>
	<b>FDI Stock as %</b>	<b>0.6</b>	<b>70.8</b>	<b>28.6</b>	<b>100.0</b>

**Source:** BCM/INSTAT, Authors' calculation

To conclude the analysis of the characteristics of China's FDI companies, it is noteworthy to conduct a detailed review of the share composition of each company. First of all we have an analysis of the type of investment selected by Chinese investors and thereafter highlight their collaboration with local investors.

We note that the notion of investment types resorts to the notion of the FDI Company as defined in the IMF balance of payments manual. The nature of the FDI Company is determined by the size of the share owned by the main non-resident shareholder.

Hence, by considering Table 9, we note the significance of subsidiary companies, where the main non-resident shareholder owns between 50% to less than 100% of shares, as a preference for Chinese investors in terms of staff and FDI stock. Another interpretation of these statistics could be proposed. Actually we could deduce that the majority Chinese investments are done as joint-ventures. Chinese investors thus opt to share risks and profits generated by their investments. The question that immediately arises is the integration of local investors in these companies.

Nevertheless, we note a weak involvement of locals in these investments. In fact, only 35% of Chinese FDIs recorded local involvement. This figure represents almost half the companies aside from

<sup>11</sup> Type of company: 1) affiliated company (foreign investor 10% less than 50% of the capital) ; 2) Subsidiary (50% to less than 100%) ; 3) Branch (100%).

<sup>12</sup> Affiliated: company in which the main non-resident shareholder owns between 10% and 50% of the shares.

<sup>13</sup> Subsidiary: company in which the main non resident shareholder owns between 50% and less than 100% of the shares.

<sup>14</sup> Branch: company whose total shares are owned by only one non resident shareholder.

branches. Moreover, Chinese investments in these companies, where there is local involvement, only represent 30% of the Chinese FDI stock. The locals are therefore rarely included in large Chinese investments.

The situation is worse when we consider the manufacturing sector. In fact, only 23% of the industries, where there is Chinese ownership, record local involvement. Notwithstanding that the Chinese FDI stock represents hardly 3% of the entire sector stock. There is therefore a phenomenon of exclusion of locals in this sector.

Moreover, the larger part of investments in the construction and public works sector is made by only one company of the branch type, entirely owned by one non-resident investor. How then can local investors learn how the Chinese operate in this sector?

Transfer of technology is therefore slightly compromised in view of the exclusion phenomenon of local investors. Although the transfer of technology can be directly done towards local workers through training.

**5-2-2 Marketing Channel of Chinese FDI Companies**

The commitment of countries in international trade is explained by several reasons. Exports in particular have led to the influx of foreign currency to help finance imports. They can also achieve economies of specialization and economies of scale. In this respect, FDIs in China can be very useful for countries for access to global markets.

**Table 10. Clientele structure of Chinese-owned companies in 2007.**

Sector	Exports		Local Sales	TOTAL
	China	Other		
<b>Manufacturing</b>	0.4	80.0	19.6	100.0
<b>Construction and BTP</b>	-	-	100.0	100.0
<b>Trade</b>	-	-	100.0	100.0
<b>Telecommunication</b>	-	5.0	95.0	100.0
<b>Other</b>	0.2	33.5	66.3	100.0

**Source:** BCM/INSTAT, authors' calculations.

At the global level, the clientele of Chinese enterprises is mainly the local market, except for the "manufacturing ". Indeed, the goal of Chinese FDI depends on the industry in question. Investments in " Construction and Public Works" and "Telecommunications" are primarily aimed at the local market potential given the country's gaps in these areas while investments in the secondary sector are mainly aimed at global markets.

The establishment of the free trade zone in Madagascar has contributed largely to changes in the export structure of Madagascar. Exports of free enterprises now represent over 50% of the total.

Moreover, with Madagascar’s international economic cooperation, many markets are opened to exporters. Finally we have Madagascar's recent eligibility to AGOA. As well as the European quota of Madagascar for some products.

Exports of Chinese-owned companies are mainly to the U.S. market through AGOA, with 67% of customers in manufacturing. This figure shows the importance of Chinese investment in textile industries. Then there is the European market with 11%. The analysis of these statistics therefore shows that Chinese investment in Madagascar is only for the U.S. and European markets. The opening of Madagascar to the regional market like the IOC, COMESA and SADC has not yet attracted Chinese investors. Therefore, Chinese FDI is not yet opened to huge Chinese market.

**5-2-3 Chinese FDI and Inter-company Relations.**

According to S. Ibi Ajayi<sup>15</sup>, the impact of FDI on the national economy depends on the dissemination of best practices throughout the local economy. This distribution is done by:

- Upstream linkages with local suppliers (locating sources of supply);
- Downstream linkages with local producers and distributors;
- Horizontal linkages with local competitors,
- And links with local institutions.

**Table 11. Structure of purchases in inputs and external services of Chinese companies**

Sector	Imports		Local market	TOTAL
	Parent company	Others		
<b>Manufacturing</b>	49.3	3.4	47.3	100.0
<b>Construction and BTP</b>	49.0	0.0	51.0	100.0
<b>Trade</b>	0.0	95.7	4.3	100.0
<b>Telecommunication</b>	45.0	0.0	55.0	100.0
<b>Total</b>	46.7	1.7	51.7	100.0

**Source:** BCM/INSTAT, authors’ calculations

In this study, we limit ourselves to links with suppliers. The above table gives an overview of the localization of sources of supply of Chinese companies.

Overall, the majority of purchases of inputs and services are done at the local market. Then there is a large supply of foreign parent companies.

It is only the trade sector that has a high rate of imports with 96% of purchases of inputs. The objective of the investors in this sector is local market penetration of imported products and thus creation of competition with local businesses.

The purchase at the local market is more significant in the “construction public works” industry (51%) and "telecommunication" (55%). The manufacturing companies are mostly supplied from parent companies.

<sup>15</sup> FIDI and economic development in Africa, S. Ibi Ajayi, Economic Department, University of Ibadan, Nigeria.

#### 5-2-4 Employment in Chinese FDI

To complete the analysis of Chinese FDI in Madagascar, we will discuss employment creation. Here, the analysis focuses on permanent employment (i.e., more than one year). Chinese companies have employed 6 041 people in 2006. This figure represents 10.7% compared to the total labour force employed by firms in FDI in 2006. Over 90% of these jobs are from the subsidiary companies; this level can be explained by the high number of Chinese companies created under this arrangement

**Table 12. Number of permanent staff in 2006.**

Type of company	Permanent staff 2006		
	Chinese companies		Chinese companies
	(staff)		(staff)
Parent company	73	11 772	0,6
subsidiary	5 555	37 167	14,9
Chain store	413	7 697	5,4
<b>Total</b>	<b>6 041</b>	<b>56 636</b>	<b>10,7</b>

**Source:** Study « FDI and portfolio in Madagascar », BCM-INSTAT

Furthermore, in terms of average, a subsidiary provides more jobs than the others. In fact, 309 permanent jobs are the work of a subsidiary against 69 of branches and 9 of affiliated firms. Another reading of these figures gives an estimate of the size of Chinese enterprises. Indeed, given the number of jobs, subsidiaries are rather large enterprises, medium-sized enterprises and affiliates of small business.

**Table 13 : Distribution of permanent jobs per sector in 2006.**

Activity Sector	permanent 2006	%
Manufacturing	3 627	60.04
Construction	4	0.07
Trade	56	0.93
Transports	6	0.10
Finance	52	0.86
Housing	26	0.43
Telecommunication	2 278	37.71
<b>Total</b>	<b>6 041</b>	

**Source:** Study « FDI and portfolio in Madagascar », BCM-INSTAT

The analysis of jobs by industry gives another FDI of FDI. Indeed, if FDI is measured in terms of capital, "telecommunication" and "financial activities" sectors are doing well. However, when evaluated in terms of employment, it is the "manufacturing sector " that is

more dynamic with rate of job creation that represents 60% of all Chinese companies followed by "telecommunications" with 38%.



## 6- Conclusion and Economic Policy Recommendations

Madagascar's economic profile underwent a significant change from the time various incentive and investment promotion policies were put in place. Since the 90s, the establishment of free trade zone mechanism enabled Madagascar's industrial tissue that was steered towards the external market to be strengthened. This arrangement was especially beneficial for the textile and clothing industry. In the late 90s there was also a vast privatization campaign. This helped foreigners to penetrate the economy. Beginning in 2006, significant investments in the mines sector boosted the economy. .

In fact, ever since the establishment of the Council for Economic Development of Madagascar (EDBM), which is responsible for ensuring that the business climate is attractive and conducive to investments in Madagascar, a major promotion of the country's image has been undertaken. Six sectors identified as priority sectors were especially targeted. These sectors are: tourism, agribusiness, light exporting industries, information and communication technology, infrastructure and mining.

Attracting Chinese investors was not left to chance either. The signing of a bilateral agreement for investment promotion and protection between Madagascar and China, followed by a visit to China by local investors clearly testifies to this effort. However, by the end of 2008, FDIs from China were less significant compared to those from other Madagascar partner countries. In 2008 China held the 10<sup>th</sup> position among FDI providers with a stock valued at 1.9% of the total. Aside from "extractive activities", China occupied the 7<sup>th</sup> position with its FDI stock of 7.3%. .

Les IDE chinois se tournent surtout vers 3 branches à savoir : les activités de fabrication, la construction et BTP et la télécommunication. Ces 3 branches représentent 98% du stock des IDE chinois à Madagascar.

With regard to "manufacturing activities" two sub-sectors are most affected, namely, the sugar industry and the textile and clothing industry. Whereas the sugar industry springs from the privatization of the production unit, the textile and clothing industry represents new projects within the free trade zone arrangement and attracts more Chinese investors.

As for the two other sectors, the significance of the « construction and public works » sector can be attributed to strong investments in one company that is responsible for using aid received by the Government in for developing infrastructure, such as the construction of a five star hotel and a range of infrastructure planned for the African Union Summit to be held in Madagascar in July 2009. As for the "telecommunication sector", investments came from the purchase of a public telecommunications corporation based in Hong Kong.

Up to now, the main incentive for Chinese investors is access to markets. The "manufacturing" sector particularly targets the external market represented by two destinations, the European Union and the United States of America. 80% of the total production of companies are directed to the external market. In fact, Chinese investors, benefit from agreements obtained by Madagascar with Europe and the United States. The European market potential springs from the

partnership agreement between Europe and ESA countries. Whereas that of the American market originates from a partnership that was established when Madagascar joined AGOA program.

Chinese investors from other sectors are primarily targeting the local market. In fact, given Madagascar's infrastructure backwardness, there is still a great potential in this area.

The main issue of this paper is therefore the impact of investments on the country's investments.

The first impact is primarily the exploitation of Madagascar's resources and potential which inevitably creates added value. Minimal as it may be, the FDI from China for production, construction and public works results in significant impacts on the Malagasy economy.

Next there is employment creation generated by these investments. China's weight in employment creation is very significant in comparison with investments coming from other partner countries. In fact, employment created by Chinese investors represents 10.7% of employment created by all the FDIs in Madagascar. Hence, 1.9% of FDI stock was able to provide 10.7% of the employment. This significance is especially palpable in the manufacturing and Telecommunication sectors.

Furthermore, these investments support the activities of companies established in Madagascar. In fact, 51% of input purchases and external services are carried out at the local market level. This strong link with other companies operating in Madagascar is therefore an important aspect of Chinese investments in Madagascar by indirectly creating added value. Thus, the private sector in Madagascar deserves to be strengthened in order to satisfy the potential demands arising from various investments.

Nevertheless, one of the weaknesses of Chinese FDIs is the exclusion of local investors from investment projects. This phenomenon is notorious in the manufacturing sector and the construction and public works sector. The exclusion phenomenon is particularly visible large Chinese investments. As an example, only 23% of Chinese-owned manufacturing industries have recorded shares from local investors and these industries actually represent only 3% of the Chinese FDI stock. Chinese investors would rather invest in joint ventures with foreign investors if they do not opt for sole investment.

Hence, in order to optimize gains from Chinese FDIs and to minimize losses, Madagascar should implement a series of policies that take into consideration not only the country's development needs but also Chinese policies and investment needs.

Consequently, in view of the in-depth analysis of Chinese FDI impacts on Malagasy economy, we propose the following recommendations:

- Strengthen investment campaigns for the Chinese private and public sector by linking the country's potential sectors with Chinese investors' needs;
- Set up, in line with the above, an information system to enable local investors to understand the needs of Chinese investors. This can be accomplished through a Madagascar-China economic relation platform;

- In addition, given the specificity of Chinese FDIs, the Malagasy Government can hold direct dialogues with the Chinese Government in connection with their needs concerning the exploitation of the country's natural resources, particularly mineral and agricultural resources. At the same time set up a cooperation system to ensure positive impacts for the economic development of the country even if it is only in area of infrastructure.
- Set up a mechanism to ensure the involvement of local investors in future Chinese investment projects in imitation of other African countries. This would foster technological transfer in return;
- Strengthen local companies capacities to better meet the needs of foreign investors, particularly Chinese, as far as external service is concerned so as to benefit from the indirect effects of the establishment of their investments ;
- Open other opportunities for outlets for the country through the strengthening of the current regional integration ;
- Ensure good governance to secure our market with leading Western countries such as the United States of America and the European Union ;

## BIBLIOGRAPHY

- Raphael Kaplinsky, Mike Morris: « Chinese FDI in Sub Saharan Africa: Engaging with large dragons », to be published in European Journal of Development Research, Vol. 21 No. 4.
- Alex, Andreea, Zhuo, (2006), Relation Chine-Afrique : enjeux énergétiques - Publié dans : Actions chinoises, 3 décembre 2006.
- Agénor P. Richard, Diwan I. et Al-Kibbi J. (2000) –« Private capital flows to MENA: issues and evidence ». World Bank Institute, Washington D.C. : draft 2.-30p
- Bertil Ohlin, *Interregional and International Trade*, Harvard University Press, Cambridge, 1933.
- *Bhattacharya, A. Montiel, P. J. et Sharma, S. (1997). « External Finance for Low-Income Countries: Capital Flows to Sub-Saharan Africa, an Overview of Trends and Determinants ». IMF Institute, IMF.-p207-232.*
- **Chaponnière J. (2006). Les échanges entre la Chine et l’Afrique : Situation actuelle**, perspectives et sources pour l’analyse, SATECO N°- 100, Paris, France 2006.
- Dorosh, Paul, (1994). “Macroeconomic Adjustment and the poor in Madagascar: a CGE analysis”.CFNPP, Cornell University-Ithaca, NY.
- Dorosh “Growth Linkages, Price Effects and Income Distribution in Sub-Saharan Africa,” 2003. *Journal of African Economies* 12(2):2-7-235.
- Dervis, De melo, Robinson, General Equilibrium Model for Development Policy, Cambridge University Press 1982
- Emma Mawdsley (2007), China and Africa: Emerging Challenges to the Geographies of Power, *Department of Geography, Cambridge University*
- Harris, J. (2005). Emerging third world powers: China, India and Brazil. *Race and Class* 46 (3), pp. 7–27
- Kamgnia, B. D. et Mama, T. (2002). « Le comportement d’investissement privé au Caméroun : un resserrement de la contrainte financière ? » -32p.
- Keynes J. M. (1936), *The General Theory of Employment, Interest and Money* » MacMillan, Londres, 1936.

- Eisenman, J., and Kurlantzick, J. (2006). China's Africa strategy. *Current History* May, pp. 219–224.
- Malcom Gillis, Dwight H. Perkins, Michael Roemer et Donald R. Snodgrass, dans leur ouvrage « *Economie du Développement* »,
- Organization for Economic Cooperation and Development. (2006). *The rise of India and China: what's in it for Africa?* Paris: OECD.
- *Rapport économique sur l'Afrique (2007): « Accélérer le développement de l'Afrique par la diversification ».*
- UNCTAD et du UNDP intitulé : « *Asian foreign direct investment in Africa : Towards a new area of cooperation among developing countries*
- Wim Naudé, Riaan Rossouw, (2008), "South African quotas on textile imports from China: A policy error?" *Journal of Policy Modeling*, Volume 30, Issue 5, September-October 2008, Pages 737-750.
- You Yang, (2006), *Commerce entre Chine et Afrique*, 26 Mars 2006.
- Marion Zipfel, (2004), *Chine-Afrique : Quelle coopération*, Store Radio.
- Masuma Farooki (2009), *China's structural demand and the commodity super cycle: implication for Africa, Development Policy and Practice*, The Open University, Milton Keynes, February 2009.)
- NICET-CHENA, D. et ROUGIER , E. (2007), "Attractivité compare des territoires marocains et tunisiens au regard des IDE » cahier du GRES N°2007-05, Bordeaux, France.
- Romalahy, M. I. Z. et Rajamarison, L.(2008. « *Etude sur la promotion de l'investissement à Madagascar* » *Cahier de recherche en analyse économique N°-12/2008*, CREAM, Antananarivo-Madagascar
- Schneider F. et Frey B. (1985) « *Political and Economical Determinants of Foreign Direct Investment* » p.162.
- Stolper, Wolfgang et Samuelson, Paul, "Protection and Real Wages", *Review of Economic Studies*, IX, Novembre 1941, p. 58-67
- Yahuda, M. B. (1978). *China's role in world affairs*. London: Croom Helm.
- ZAFAR, A. (2007). "The growing relationship between China and Sub-Saharan Africa: Macroeconomic, Trade, Investment, and aid Links", *The World Bank Research Observer*, Spring2007, Vol. 22 Issue 1, p103-130, 28p.
- Zoellick, R. B. (2006). *US-China relations*. Presentation to the Committee on International

## ANNEX 1: Static CGE Model Equations in an Open Economy

### Production, salary, employment:

$$X_i = f(\bar{A}_i, \bar{K}_i, LD_i)$$

$$w = PVA_i \cdot \frac{\partial X_i}{\partial LD_i}$$

$$\sum_i LD_i = \bar{L}S$$

### Formation of income and savings:

Household Income:

$$YM = \sum_i w \cdot LD_i$$

Corporate Income:

$$YE = \sum_i (PVA_i \cdot X_i - LD_i)$$

State Revenue:

$$YG = \sum_i LDI + \sum_i ts \cdot (PVA_i \cdot X_i - wLD_i) + \sum_i xi \cdot PX_i \cdot X_i \\ + \sum_i tmi \cdot \bar{E} \cdot PWM_i^s \cdot Mi + \sum_i tei \cdot \bar{E} \cdot EX_i$$

Overall Savings:

$$S = sm \cdot (I - ty) \cdot YM + (I - ts) \cdot YE + YG - \sum_i pi \cdot CG + \bar{E} \cdot F^s$$

### Goods and Services Demands:

Household final consumption:

$$CM = (I - sm - ty) \cdot YM$$

Household consumption by product:

$$C_i = \beta_i^e \frac{CM}{P_i}$$

Public consumption:

((0))

$$\text{Investment price: } PK_i = \sum_i P_i \cdot a_{ij}$$

Intermediate commodities:

$$C_{Ii} = \sum_i a_{ij} \cdot X_j$$

Exports:

$$X_i = B_i^e \cdot \left[ y_i \cdot EX_i^{\phi_i} + (I - y_i) \cdot DS_i^{\phi_i} \right]^{\frac{1}{\phi_i}}$$

$$\frac{EX_i}{DS_i} = \left[ \frac{I - y_i}{y_i} \right]^{\sigma_{xi}} \cdot \left[ \frac{PE_i}{PD_i} \right]^{\sigma_{xi}}$$

Imports:

$$Q_i = B_i^m \cdot \left[ \delta_i \cdot M_i^{\rho_i} + (I - \delta_i) \cdot DD_i^{\rho_i} \right]^{\frac{1}{\rho_i}}$$

$$\frac{M_i}{DD_i} = \left[ \frac{\delta_i}{I - \delta_i} \right]^{\delta_m} \cdot \left[ \frac{PD_i}{PM_i} \right]^{\delta_m}$$

Price:

$$PM_i = \overline{PWM_i^s} \cdot \overline{E} \cdot (1 + t_{mi})$$

$$PE_i = \frac{\overline{PWE_i^s} \cdot \overline{E} \cdot (I + t_{mi})}{I + t_{e_i}}$$

$$p_i = \frac{I}{B_i^m} \cdot \left[ \delta_i^{\sigma_{mi}} \cdot PM_i^{I - \sigma_{mi}} + (I - \delta_i)^{\sigma_{mi}} \cdot PD_i^{I - \sigma_{mi}} \right]^{\frac{1}{\sigma_{mi}}}$$

$$PX_i = \frac{I}{B_i^e} \left[ (y_i^{\sigma_{xi}} \cdot PE^{\sigma_{xi}}) + (I - y_i)^{-\sigma_{xi}} \right]^{\frac{I}{I - \sigma_{xi}}}$$

$$PVA_i = PX_i \cdot (I - x_i) - \sum_i a_{ji} \cdot P_j$$

Equilibrium Condition on Goods and Services Market:

$$Q_i = C_i + CG_i + CI_i + I_i$$

$$DS_i = DD_i$$

Balance of current (in foreign currency):

$$\sum_i PWM_i \cdot M_i - \sum_i PWE_i \cdot EX_i - F^s = 0$$

Cash:

$$\sum_i \Omega_i \cdot P_i = \overline{PINDEX}$$

Total of equations: 18n + 8 including 18n + 7 are independent.

### **Variables and parameters of the MEGC model:**

Endogenous variables:

Xi : production in volume

W : wage rate

YM : Household income:

YG : Domestic price of exports :

PEi : Mixed commodities price

Pi : Total household consumption

CM : Public consumption of good (volume)

CGi : Capital price



PKi : exports in volume

EXi : Domestic goods price

PDi : imports in volume

$F^s$  : Foreign funding in foreign currency

Exogenous variables :

Ki : Capital stock capital

PINDEX: Price level

$PWE^s$  : World price for exports in foreign currency

CG: total public consumption in volume

Parameters :

Ai : Technical progress ratio

Ti : tax rate

Sm : propensity to save

Fi : Allocation of public expenses ratio

Hi : Investment distribution coefficient

Hij : investment coefficients matrix

Aij : Technical coefficients matrix

$B_i^e$  : CET function dimensional parameter

$B_i^m$  : CES function dimensional parameter

LDi : Job application

PVAi : Added value price

YE : Company income

$PX_i$  : procurement price

$S$  : Total savings

$S_i$  : Household consumption of goods  $i$

$L_i$  : investment by sector of origin

$CL_i$  : intermediate consumption of good  $i$

$DD_i$  : Requisition for domestic goods in volume

$DS_i$  : offer of domestic goods in volume

$Q_i$  : Requisition for mixed in volume

$PM_i$  : Domestic on imports

Total of endogenous variables:  $18n+7$

$LS$  : Job offer

$PMW^s$  : Global price on imports in foreign currency

$E$  : Nominal exchange rate

$\delta_i$  : Armington function share parameter

$\sigma_i^e$  : transformation elasticity

$y_i$  : CET function share parameter

$\sigma_i^m$  : Substitution elasticity

$\varphi_i$  : CET function exponent

$p_i$  : Armington function exponent

$\Omega_i$  : weighting coefficient of mixed commodities prices

$\beta_i^e$  : Distribution key for Household consumption

## **ANNEX 2 : DATA SOURCES**

### **Statistic sources used and their limitations**

In general, international capital flow statistics suffer from a lack of coherence which is not specific to developing countries. It is difficult to obtain “mirror-data”.

#### **National Data**

- General Management of the National Institute of Statistics
- Central Bank of Madagascar

#### **International Data**

- 1) IMF
- 2) UNCTAD-World Investment Directory online