MALI

TECHNICAL ASSISTANCE REPORT— MINING TAXATION—MODELING OF FIVE MINING OPERATIONS

March 2016

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MALI

MINING TAXATION: MODELING OF FIVE MINING PROJECTS AND SHARING OF THE MINING RENT

TECHNICAL ASSISTANCE REPORT

Grégoire Rota Graziosi and Bertrand Laporte

June 2015

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ACRONYMS

AETR	Average effective tax rate
CET	Common external tariff
CFAF	African Financial Community franc
CSP	Special mining contribution (Contribution pour prestation de services)
DGE	Directorate of Large Business Taxpayers
FARI	Fiscal Analysis for Resource Industries
IMF	International Monetary Fund
IRR	Internal rate of return
IRVM	Tax on securities income
IS	Corporate income tax
ISCP	Special tax on certain products (Impôt spécial sur certaines catégories de produits)
MC	Mining Code
TAF	Tax on financial activities

PREFACE[1]

As part of a technical assistance program financed by the Topical Trust Fund on Managing Natural Resource Wealth, a mission from the IMF Fiscal Affairs Department (FAD) visited Bamako during June 9–15, 2014; a document describing the objectives and technical assistance financed by the fund is available on the IMF website at: http://www.imf.org/external/np/otm/2010/110110.pdf. The mission consisted of Mr. Grégoire Rota-Graziosi (mission chief). The mission will be followed by a training mission to be conducted by Bertrand Laporte (IMF expert) during June 29–July 3.

The mission met with Mr. Boubou Cissé, Minister of Mines, and key members of his headquarters staff and field organizations.

The mission held a workshop on Thursday, June 11, on modeling income sharing between private investors and the government.

The mission was also assisted by Mr. Anton Op de Beke, IMF Resident Representative, and Mr. Bakary Traoré, IMF Economist, who facilitated contacts and arrangements for the mission.

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[1] The original version of this report was in French. The present English translation is for consultation purpose only.

I. INTRODUCTION

1.   **Mali's industrial mining sector predominantly consists of gold mining, with six industrial mines currently active (cf. Table 1).** Most of the mines are old, but a number of them still have substantial reserves; extensions are planned for the Syama, Morila, Kalama, Tabakoto-Segela, and Loulo-Gounkoto mines. One mine, Robex, is expected to go into production soon, and a feasibility study has been submitted for the Fekola mine. Preparatory works for the Kodiéran mine, held by Wassoul'or, could resume during 2015 following the payment of over CFAF 7 billion to various creditors. Accordingly, Mali's declining gold production could be sustainably reversed in the coming years if international prices remain at current levels.

2.   **It is difficult to measure the real impact of the extension projects on gold production because feasibility studies are not available.** Most of the studies provided during the previous June 2014 mission date from the 1990s. The mission focused on projects with more recent feasibility studies, for which the additional contributions to gold production in the coming years could be evaluated. The Ministry of Mines has published two feasibility studies on its website,[2] for the Nampala mine (Robex) and the Fekola project (Songhoi Resources).

3.   **The Fiscal Analysis for Resource Industries (FARI) model was completed for five "new" projects with recent feasibility studies.[3]** Two extension projects come under the 1991 Mining Code (Sadiola and Gounkoto mines), and three projects for new mines to be put in production are governed by the 1999 Mining Code (Nampala, Kodiéran, and Fékola mines). The contracts governing exploration and development (*conventions d'établissement*) for SEMOS SA (Sadiola), Gounkoto S.A., and Robex are available on the Ministry of Mines website. The contracts apply to the extension projects for SEMOS SA and Gounkoto SA.

4.   **The government revenue contributed by the five "new" projects is on the order of US$1.7 billion (constant dollars) over the next 10 years (cf. Figure 2).** The estimates are based on the production of 8 million ounces of gold estimated in the feasibility studies (cf. Figure 3) and on an international price of US$1,150 per ounce of gold. One project, the extension of the Sadiola mine operated by SEMOS SA, accounts for 44 percent of the increase in production. A feasibility study was completed for a second extension of the Gounkoto mine, but it was not modeled for lack of sufficient information.

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[2] The link for the Komana mine is inactive.

[3] For the five projects, the model was completed at constant 2014 prices. If the feasibility study was completed before 2010, an average annual inflation of 2 percent is used because the amounts in question are expressed in current United States dollars. A rate of 1.5 percent is used for feasibility studies conducted after 2010.

Table 1. The Malian industrial mining sector

Company	Mine	Mineral	Owners	Legal basis	Date of mining permit	Surface area (km2)	Start of production	Expected duration of mining operations	Feasibility study	Comments
Société des mines de Syama (SOMISY)/ Syama Mining Company (SOMISY)	Syama	Gold	Resolute Mining Ltd. (80%) Malian government (20%)	1991 Mining Code	9/23/1989	191.4	1990	Extended in 2009 for 7 years	Apr-05	12/12/2006 amendment (1) Underground operations to be extended until 2017
Société d'exploitation de la mine d'or de Sadiola (SEMOS SA)/ Gold Mining Company of Sadiola (SEMOS SA)	Sadiola	Gold	AngloGold Ashanti (41%) Iamgold (41%) Malian government (18%)	1991 Mining Code	8/1/1994	302.6	1996	Extended in 2014 for 10 years	Oct-93	
MORILA SA	Morila	Gold	AngloGold Ashanti (40%) Iamgold (40%) Malian government (20%)	1991 Mining Code	8/4/1999	199.8	2000	15 years	Feb-99	Extension envisaged
YATELA SA	Yatela	Gold	AngloGold Ashanti (40%) Iamgold (40%) Malian government (20%)	1991 Mining Code	2/25/2000	212.0	2001	7 years	Sep-99	In process of closing
Société des mines d'or de Kalana (SOMIKA SA)/ Gold Mining Company of Kalana (SOMIKA SA)	Kalana	Gold	AvnelGold (80%) Malian government (20%)	1999 Mining Code	12/17/1984	387.2	2004		None	Extension envisaged
Société des mines d'or de Loulo (SOMILO SA)/ Gold Mining Company of Loulo (SOMILO SA)	Loulo	Gold	Randgold Resources (80%) Malian government (20%)	1991 Mining Code	7/15/1999	372.1	2005	6 years	May-98	
GOUNKOTO SA	Gounkoto	Gold	Randgold Resources (80%) Malian government (20%)	1991 Mining Code	8/3/2012	99.9	2012	22 years	Dec-10	Transfer from Somilo SA Feasibility study in progress for extension of underground operations
Société des mines de Segala/Tabakoto (SEMICO SA)/ Mining Company of Segala/Tabakoto (SEMICO SA)	Tabakoto/Segala	Gold	Endeavor resources (80%) Malian government (20%)	1991 Mining Code	12/15/1997	113.0	2006	10 years	Apr-97	Extension scheduled using Kofi Nord mining permit (June 13, 2014)
WASSOUL'OR	Kodiéran	Gold	Private Malians (55%) Pearl Gold SA (25%) Malian government (20%)	1991 Mining Code	5/30/1997	100.0	2013	8 years	Nov-96	Production suspended Technical and financial problems May be resumed in 2015
ROBEX	Nampala	Gold	Robex (80%) Malian government (20%)	1999 Mining Code	n/a	n/a	2015	9 years	Nov-11	Resumption of work
SONGHOI RESOURCES	Fekola	Gold	B2GOLD (?) Malian government (?)	1999 Mining Code	2/13/2014	75.2	n/a	10 years	Jun-13	Transfer from Papillon Resources Production expected to start in 2016
NEW GOLD MALI SA	Bagama	Gold	n/a	n/a	12/20/2012	40.0	n/a	n/a	None	No development work done
SAHARA MINING SA	Tienfala	Iron	Sandeep (80%) Private Malians (5%) Government (15%)	1999 Mining Code	2/5/2010	2055.0	n/a	10 years	Oct-09	
SAHEL RESOURCES and MINERALS SA	Dogoro	Iron	n/a	1999 Mining Code	11/2/2011	430.0	n/a	n/a	None	Transfer from Sahara Mining SA
MALI MANGANESE SA	Ansongo	Manganese	n/a	1999 Mining Code	7/15/2011	212.0	n/a	16 years	?	Project not begun/facilities destroyed

1: The December 12, 2006 amendment states that the production commencement date is the date on which the mine reaches 90 percent of its production capacity for at least 60 consecutive days.

Figure 1. Annual revenue in USD (constant 2014 dollars) obtained from five mining projects (extensions and new projects)
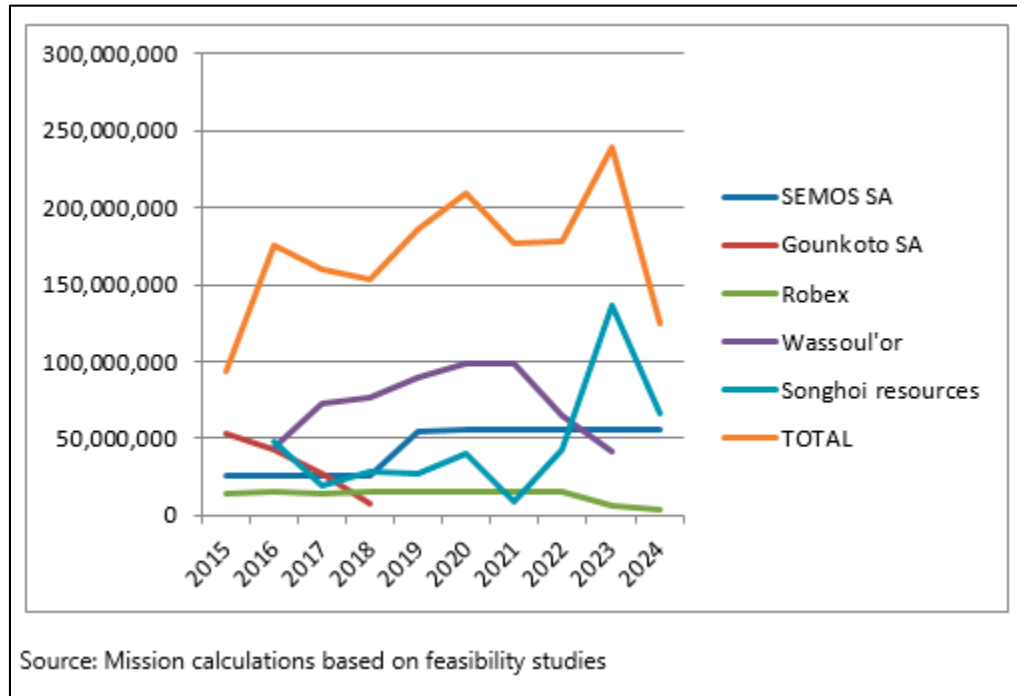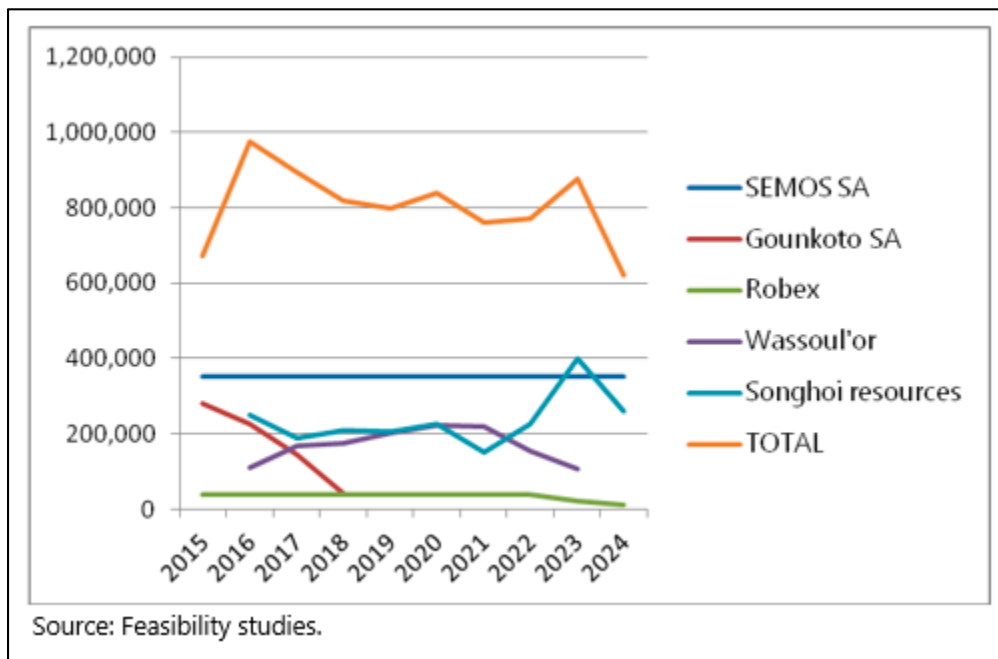

Source: Mission calculations based on feasibility studies

Figure 2. Annual production from five mining projects (extensions and new projects) in ounces of gold

Source: Feasibility studies.

II.   RENT SHARING ANALYSIS

5.   **The application of the 1999 or 2012 Mining Code increases the government's share of income in comparison with the 1991 code (cf. Figure 3 and Table 2).** However, there are considerable differences between the projects, with the average effective tax rates (AETR) ranging from 15.8 percent to 54.5 percent for the different projects and mining codes. The impact of the 2012 Mining Code relative to the 1999 code on the AETR is not uniform; which of the two has the greatest impact depends on the structure of the project costs. It increases the AETR for those with the highest unit costs of production and reduces it for those with the lowest unit costs. The regressive nature of the tax system is the result of developments in the area taxation: the 2012 Mining Code reduced the corporate income tax rate by 10 points but reinstated the ad valorem tax of 3 percent of turnover. The internal rate of return (IRR) is greater than 26 percent in all cases, and may exceed 200 percent in certain cases.

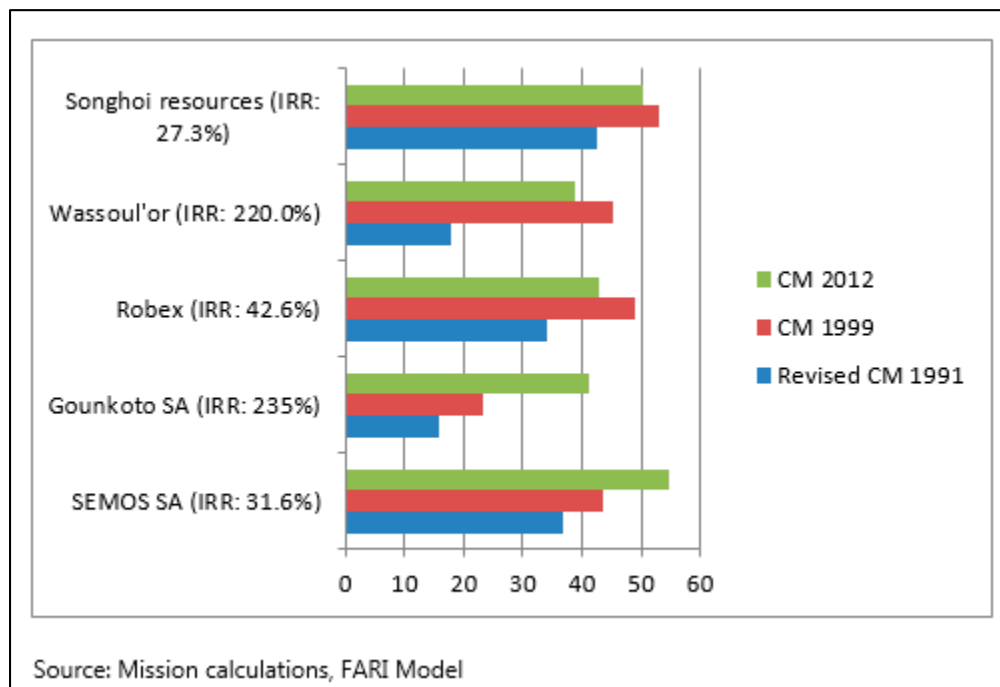**Figure 3. AETR (%) according to Mining Code applied**

Source: Mission calculations, FARI Model

Table 2. Key Fiscal parameters for the calculation of the AETR

	Revised 1991 Mining Code	1999 Mining Code	2012 Mining Code
Tax on selected products (ISCP)	3%	3%	3%
Ad valorem royalty	3%		3%
Corporate income tax (IS)	25%	35%	25%
Corporate income tax (IS) exemption	5 years		
preferred dividends	no	10%	10%
IRVM dividends		10%	10%
		only dividend paid to government	
Tax on investment income (IRVM) interest		9%	9%
Source: Mining codes.			

6. **The structure of government revenue under the 1999 Mining Code is quite different from revenue under the 2012 code (cf. Figure 4), and aptly illustrates the delicate tradeoffs between securing government receipts and being sufficiently attractive to private investors**. Mining royalties (the ad valorem tax and the special tax on certain products (ISCP)) contribute the same amount to government revenue as when the 1991 Mining Code is applied, roughly 41 percent. This "step backward" secures government revenue, almost 80 percent of which was traceable (under the 1999 Mining Code) to corporate income tax and the payment of priority dividends, the bases for which are particularly exposed to transfer pricing practices.[4] While the 2012 Mining Code secures a greater share of mining revenue for the government, it is less neutral than the 1999 Mining Code. By relying more on fees that are equivalent to turnover taxes, the 2012 Mining Code gives lesser consideration to the mining project's returns or profitability, and could therefore reduce incentives to invest. Such a risk is limited, however, by the high IRRs.

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[4] The mission also assumes that the dividends paid to the government as minority shareholder (10 percent) were zero under the revised 1991 Mining Code. In fact, the distribution of dividends is decided by majority vote of the shareholder meeting. It is common practice for profits not to be distributed (set aside as reserves) to finance other mining projects which may or may not succeed. There is also a comparatively substantial risk that the reserves may be transferred abroad via transfer pricing practices.

Figure 4. Breakdown of Government Revenue by Mining Code

Source: Mission calculations, FARI model
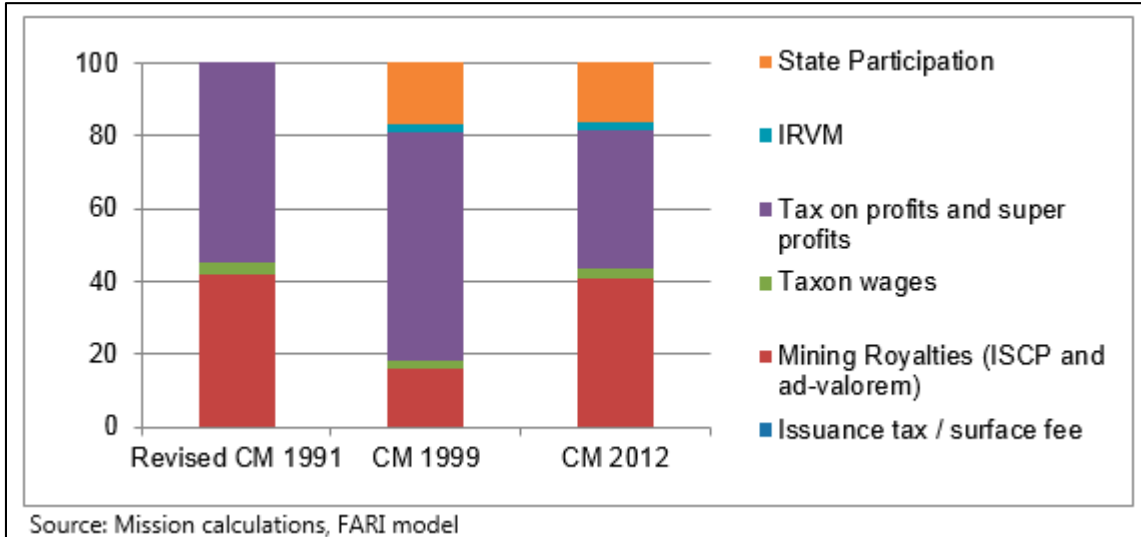
**Box 1. Modeling of mining revenue – possible uses of the FARI model**

The FARI model is a tool used to compare tax regimes. It enables the government to analyze the impact of applying different tax systems (structure, rate, and tax base) on the sharing of mining revenue between the government and the investor. The analysis can address different tax regimes that are applied or could be applied domestically, based on the country's mining code or draft code or the regimes applied in similar countries.

The use of the FARI model to forecast tax revenue is conceivable, provided that reliable economic and tax data are available. The data for the model can be updated regularly without difficulty (by replacing forecasts with actual figures). Recording the successive results of the model can establish actual historical revenue and the differences between forecasts and actual revenue. The circulation of information between the administrations concerned is essential to the success of this component. Project technical data and production forecasts are available from the Ministry of Mines, while accounting and tax data are available from the Ministry of Finance.

The FARI model is ultimately a tool to identify constraints to raising tax revenue from the mining sector. The difference between potential sector revenue calculated by the model, tax by tax, represents vital information for the tax administration. It is also a tool to support the audit of sector tax returns.

7.   **The analysis of the sensitivity of the sharing of the rent in response to changes in the price of gold presented in Figure 5 reveals the regressive nature of the 1991 and 1999 mining codes and illustrates the delicate tradeoffs in any tax regime between securing government revenue and attracting private investors.** *All other things being equal,*[5] an increase in the price of gold is accompanied by a reduction of AETR and an increase in IRR: the more profitable the project, the smaller the government's share measured by AETR. The 1991 and 1999 Mining Code, which are the tax regimes actually applied, do not allow for the capture of a larger share of mining income if the activity becomes more profitable. They can quickly become disincentives for mines with high production costs, for which the AETR can quickly exceed 100 percent (cf. Figure 5). The sensitivity to the change in costs confirms the disincentive effect of the revised 1991 and 1999 mining codes. *All other things being equal*, an increase in costs produces an increased AETR and a lower IRR (Figure 6).

Figure 5. Sensitivity of AETR (left graph) and IRR (right graph) to a change in the international price of gold

Source: Mission calculations.
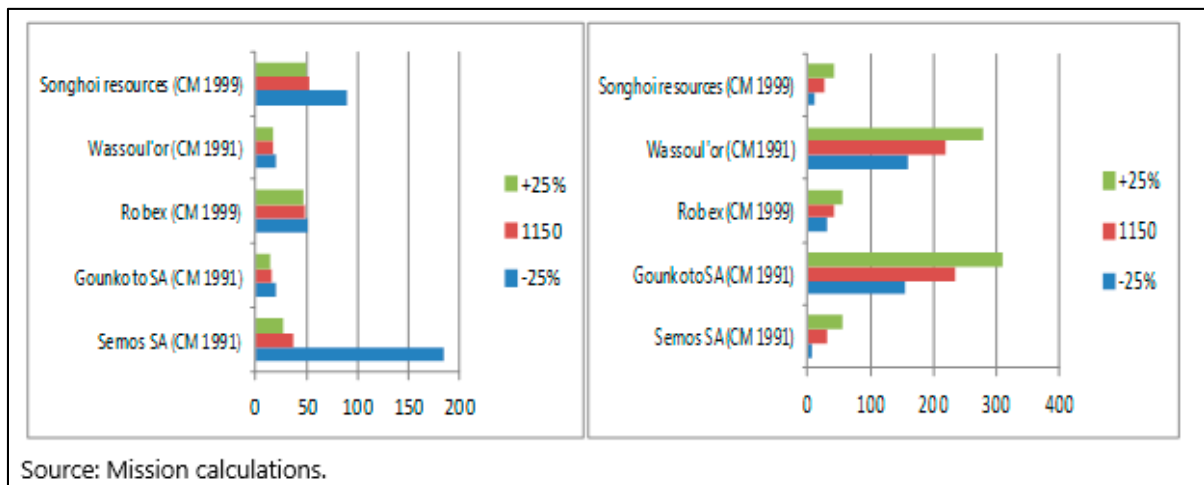
8.   **At a price of gold of US$1,150 per ounce, the 2012 Mining Code produces an AETR very close to the AETR that would result from the application of Ghana's mining code to Malian mines (cf. Figure 7).** On the other hand, the AETR is well below the rates that would be generated under the mining codes of Burkina Faso and Mauritania. The difference is partly due to Burkina's low corporate tax rate (17.5 percent compared to the general rate of 27.5 percent) and a three-year exemption from corporate income tax in Mauritania. In addition, Burkina Faso and Mauritania apply a progressive ad valorem fee, for which the maximum rate of 5 percent is below the consolidated rate of 6% (ISCP + ad valorem fee) applied in Mali (cf. Table 3). Figure 7 and 8 confirm the regressive nature of the Malian tax system: the less profitable the project, the higher the IRR (Figure 8: Songhoi Resources, Robex, Semos SA) and the higher the effective tax

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[5] In particular, unit costs of production.

rate (Figure 7). This regressive aspect, to which none of the countries is immune, is due in particular to high proportional fees.

Figure 6. Sensitivity of AETR (left graph) and IRR (right graph) to variations in the cost of production
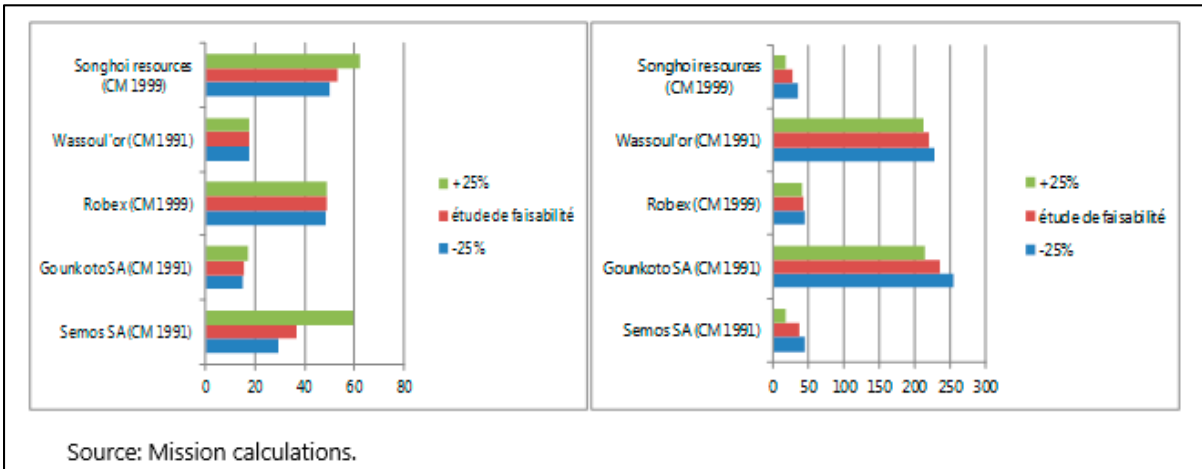

Source: Mission calculations.

Figure 7. International comparisons: sharing of mining rent (AETR) according to mining fiscal regime in Burkina Faso, Ghana, Mali, and Mauritania
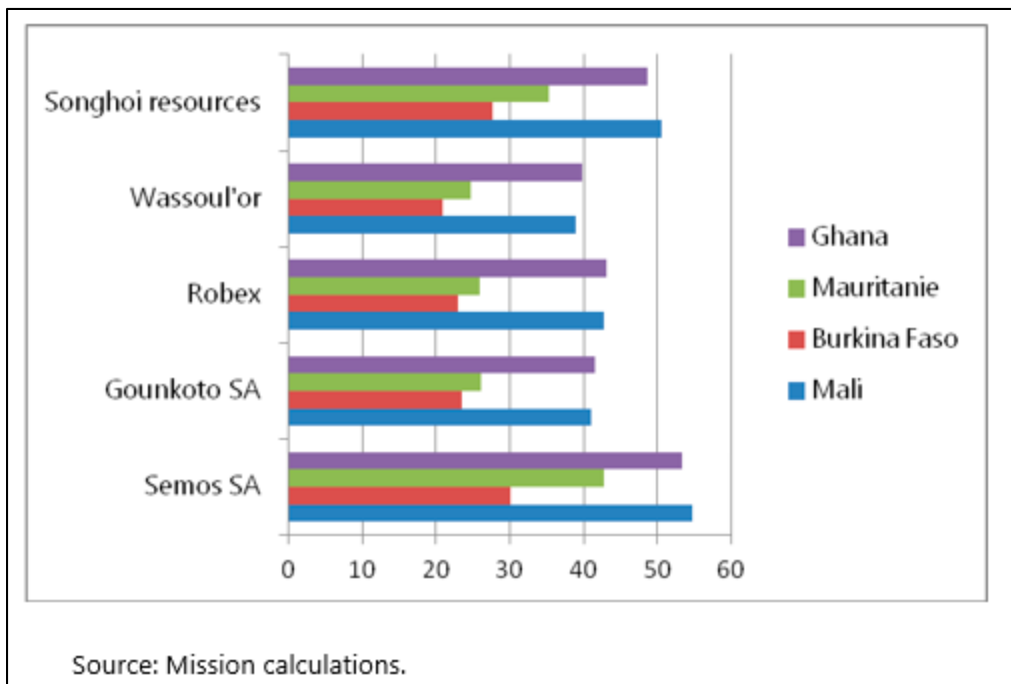

Source: Mission calculations.

Figure 8. International comparisons: IRR according to mining sector tax regime in Burkina Faso, Ghana, Mali, and Mauritania

Source: Mission calculations.
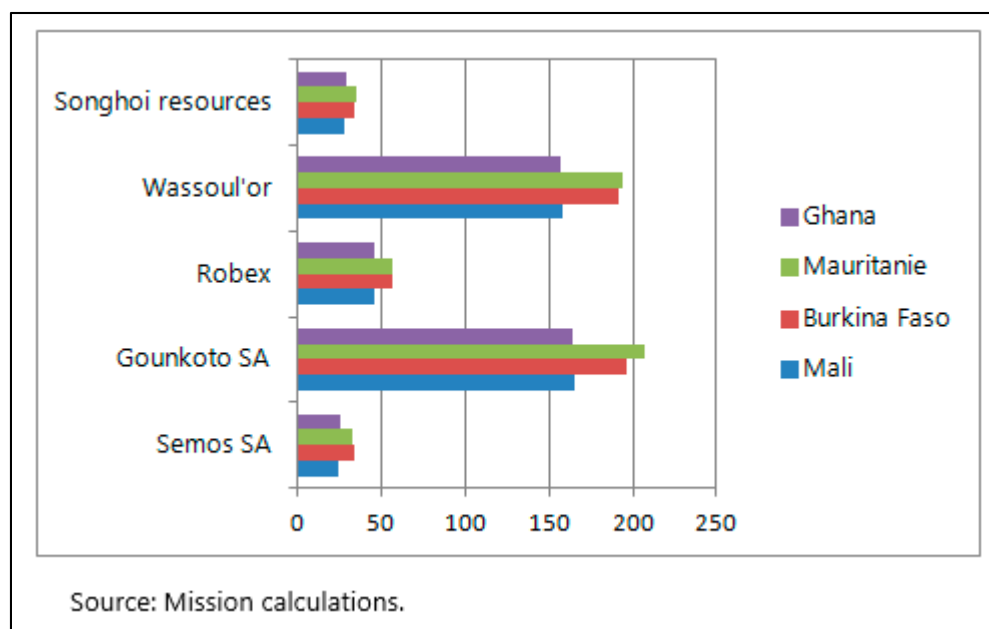
Table 3. Main Fiscal parameters used for international comparison

	Mali (2012 Mining Code)	Burkina Faso (Revised 2003 Mining Code)	Mauritania (2012 Mining Code)	Ghana (2006 Mining Code)
Tax on special products (ICSP)	3%			
Ad valorem royalty	3%	varies between 3 and 5%	varies between 4 and 6.5%	5%
Corporate income tax (IS)	25%	17,5%	25%	35%
Corporate income tax (IS) exemption			3 years	
Minimum tax rate (IMF)	1%	0,5%	1,25%	
Tax on investment income (IRVM) dividends	10%	6,25%	10%	8%
	on dividends paid to the government only			
Tax on investment income (IRVM) interest	9%	6,25%	10%	8%
Source: Mission Calculations				

9.   **The creation of an interagency unit to oversee mining revenue would promote, inter alia, greater use of the AFIE model.** Regardless of the purpose for which the model is used, it requires direct access to customs and tax information from the Ministry of Finance and technical data from the Ministry of Mines. The unit would coordinate the efforts of the administrations concerned, would facilitate a better understanding of the bases of the different taxes and fees, and would ensure more accurate macro-fiscal framing. Technical assistance missions could be useful to strengthen capacities in technical areas such as transfer pricing practices or strategic monitoring of international financial information relating to the Malian mining sector. The unit could promote standardization of the economic and tax information used in feasibility studies as well as update of the information over the course of the mining projects' life cycles (cf. Annex 1, sample form for use in requesting information from mining companies).

Sources:

Feasibility study to bring the Kodiéran mine in Mali into production, Roch Ltd. Consulting Group, November 1996.
http://www.mines.gouv.ml/images/docs_utiles/Robex_faisabilite_volume1.pdf
http://www.mines.gouv.ml/images/docs_utiles/Frenchexecsummary.pdf (Fekola project)
Sadiola hard suphide ore project, feasibility study, AngloGold Ashanti, IAMGOLD, December 2010.
http://www.randgoldresources.com/annual-reports-listing

ANNEX 1. ANNUAL REQUEST FOR INFORMATION FROM MINING INDUSTRY COMPANIES – SAMPLE STANDARDIZED FORM

Company name

Shareholders

Total reserves (specify unit)
Mineral substance 1
Mineral substance 2

Installed capacity (specify unit)
initial
current
extension

First year of production
Life of the project (in years)

Nature of products sold (official nomenclature for mining products)

Investments
initially envisaged
to date
envisaged before end of project

	Units	n-1 (actual)	current year (n) (actual)	n+1 (projected)	n+2 (projected)	n+3 (projected)
Production - mineral substance 1 (specify units)						
Production - mineral substance 2 (specify units)						
Selling price mineral substance 1 (specify units)						
Selling price mineral substance 2 (specify units)						
Total investment excl. tax (1+2+3+4)						
of which imported investments excl. tax						
(1) Initial investment excl. tax						
(2) Renewal investment excl. tax						
(3) Development investment excl. tax						
(4) Closing investment excl. tax						
Depreciation expenses						
Working capital						
Opeating costs excl. tax (1+2+3+4+5)						
of which payroll						
(1) Extraction						
of which petroleum products						
of which imported inputs (other than petroleum products)						
(2) Processing						
of which petroleum products						
of which imported inputs (other than petroleum products)						
(3) Overhead (general and administration)						
(4) Selling costs						
Unit cost - mineral substance 1 (specify units)						
Unit cost - mineral substance 2 (specify units)						
No. Employees						
National personnel						
Foreign personnel						
Payroll						
National personnel						
Foreign personnel						