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AN OVERVIEW OF THE FOREIGN EXPLORATION AND DEVELOPMENT CONTRACTS OF THE HUNGARIAN OIL COMPANY FROM THE ASPECT OF TAXATION

The Hungarian Oil and Gas Company (MOL), the partially state-owned successor of the Oil an Gas Trust, has an accumulated experience, good staff and equipment-park for oil production. The MOL is one of the largest among the Hungarian companies and it is the only integrated oil company of central-east Europe.

Hungarian fields has become matured in the last decade. To compensate the production decrease, and to use effectively the accumulated expertise, MOL is getting to spend \$432 million for foreign exploration and development in next five years to explore medium-size, low-risk fields. MOL's first agreement was signed in 1991 with the Tunisian State Oil Company, and the most recent one with Pakistan is dated by 11 February 1999. The MOL has exploration agreements with Yemen, Syria, Egypt, Qatar, Greece and Albania as well.

This paper examines the petroleum fiscal conditions of the above listed countries with purposes, how do these regimes reflect the aims of these countries in developing their hydrocarbon resources, as well as how do these regimes fit MOL's strategy?

INTRODUCTION - MOL'S FOREIGN INVESTMENT OBJECTIVES

Oil production in Hungary has a sixty-year history. The first fields were found in the 1930s in the western part of the country; and more significant ones in the 1960s in the Pannonian sediments of the southern part of the Great Hungarian Plain. By the 1980s nearly all perspective territories of the Pannonian Basin had been explored and developed to production [1].

The exploration/production division of the OKGT, the state oil and gas company during the Socialist Era, had accumulated a good equipment park and organised a good coterie of professional staff. Oil exploration and production was only a small, but important activity of the OKGT. It also dealt with gas exploitation and oil refining; as well as with the downstream distribution of oil products. Domestic production supplied only a small part of Hungary's consumption needs, and the main oil import came from Russia. Oil and gas importation was monopolised by the Mineralimpex, a state foreign-trade company.

The Hungarian oil and gas sector was gradually privatised during the 1990s. The assets of Mineralimpex were transferred to MOL, the successor of OKGT: both companies were reconstructed, and staff significantly cut [2]. In 1995 the Hungarian Parliament accepted the Privatisation Act, opening the opportunity to privatise the major energy companies of the country. Currently, the State owns 25.0% of MOL's shares; 52.1% was sold to foreign institutional investors; and 16.5% to domestic investors [2]. The remaining

part was distributed among employees (3.7%), municipalities (1.3%); and 0.9% was deposited as treasury shares.

As a result of reconstruction and privatisation, 'MOL is the largest and the only integrated oil and gas company in the east-central European region'[2] and it is Hungary's largest revenue-producing company [1]. Presently, oil is produced from 11 domestic fields, whose total proved reserves are estimated to be 45.5 million barrels [1]. The Hungarian oil fields became mature during the last decade. To compensate for the consequent decline in production and to effectively utilise the staff and equipment park, MOL has begun seeking possible foreign oil fields for exploration. Over the next five years, MOL will have available funds of \$432 million to spend on the *exploration and development* (E&D) of hydrocarbon fields abroad [1]. The aim is to acquire a minimum 15-20 blocks to offset the decrease in domestic oil production [3]. MOL's strategy for foreign E&D is to acquire medium-size, low-risk fields [1] with a minimum of 50 million barrels of recoverable oil.

In the first round, MOL was seeking available onshore blocks in Southern Europe, north Africa and the Gulf countries. Eight exploration contracts have been signed with six countries since 1992: two each with Tunisia and Yemen and one with Syria, Qatar, Albania and Greece.

The primary purpose of this paper is to analyse and compare the fiscal regimes of these countries, focusing on the following questions:

What are the aims of these countries in developing their hydrocarbon industry and how are these aims reflected in the fiscal regime?

How do these fiscal regimes fit MOL's expansionist strategy, and to what extent could the taxation framework affect the overall sustainable risk of these exploration contracts?

OVERVIEW OF EXISTING FOREIGN E&D TARGETS OF MOL

MOL has an equipment park and expertise for onshore E&D. It therefore primarily seeks to develop available onshore fields. In its first round of negotiations, an important criteria was that the target country should be peripheral to the Mediterranean Sea in order to allow for utilisation of Hungary's existing pipeline connections to Russia and Croatia.¹

The first acquisition of MOL was a block near Kebili in Tunisia. Exploration work began there in 1992 [2] and 11 million barrels of economically recoverable oil was found there by 1997 [3]. Another Tunisian block, the Sabria W1, was contracted by November 1998.

Further, MOL has signed contracts with three Arab countries – Qatar, Syria and Yemen. They have significant proved reserves (3.7, 2.5, 4.0 billion barrels oil, respectively) [4]. The agreement with Quatar is an exception because this is a contract for offshore exploration over a 7500 sq. km area [3], with Chevron and MOL, acting as operators [1]. In Syria, MOL is currently exploring the Palmyra East block (4800 sq. km) as a sole operator. Two onshore exploration contracts were signed with Yemen: the first one in 1997, on the South-eastern Al Maber block (3400 sq. km) and the second one in 1998 on a 5055 sq. km area of North Mukalla district [3].

Since 1997 MOL has also been a contributor in two Southern European contracts: in Greece and Albania. These two onshore blocks are situated on the two sides of the Greek-

¹ The "Adria" pipeline was built during the 1970s, connecting Hungary with the closest seaport in the Adriatic sea, but because the increased oil prices after the oil shock, this pipeline practically had not been used till the end of 1980s.

Albanian border, with MOL as a 20% share-holder in the Greek block and exploring on a 6000 km² area; whilst in Albania it has a 15% share on a 7000 sq. km territory [3].

MOL also wants to extend its acquisitions in other north African countries; in the CIS; as well as in the Far and Middle East. The latest contracts for exploration were signed with Pakistan, but they are not discussed in this paper.

ANALYSIS OF THE FISCAL REGIMES

In the six countries where MOL has signed contracts for oil exploration, four of the agreements are based on *production sharing* (PS) (those with Albanian and the three Middle Eastern countries), whilst the Greek and Tunisian contracts are based on a *royalties/CIT*² system. Since the contract with Qatar is an offshore one, it shall be excuded from the comparison. Descriptions of these fiscal regimes are summarised by publications of Petroclonsultants and Van Meurs [5], [6].

Tunisia

The *joint venture* (JV) agreement signed in 1991 with the state oil company (ETAP), was the first foreign acquisition of MOL. Tunisia has 0.4 billion barrel of proved oil reserves, but it has troubles with recovering capacity, and in 1993 became a net oil importer [7]. Tunisia is keen on field development and this interest is reflected in fiscal terms with result in a quite favourable framework for contracts. The country enacted a new investment code in 1994 which aims at liberalisation and opening of the country's economy³. A new Hydrocarbon Code, which includes fiscal terms, is also under preparation. Both royalties/CIT and PS systems were introduced by Decree No. 85-9 (regulation for upstream petroleum operations): however, recent agreements are usually based on the royalties/CIT system.

Exploration is to be performed by the contractor within 5 years. ETAP may acquire a carried interest on exploitation, reimbursing the exploration and appraisal expenditures for the contractor. The rate of the carried interest is negotiable, but is usually between fifty and fifty five percent. No bonuses or fees are payable and the length of the production phase is maximum of 30 years.

The royalty varies on a sliding scale between 2-15%, according to an '*R-factor*', varying between 0.5 and 2.5. This R-factor is not relevant to the company's whole result but must be calculated for each exploitation concession separately.

Exploration, appraisal and operating costs, as well as the royalty and customs duties, are deductible, as is generally accepted for royalties/CIT contracts. Interest on 70% of loans on development is also deductible. Development costs can be depreciated by 30% in the first 3 years and by 10% in the fourth, although there is a ring fence around each concession area. Contracts signed after 1990, however, present the opportunity to transfer exploration costs from another field of up to 50% of the taxable income. Losses can be carried forward on an unlimited basis. The CIT rate varies on a sliding scale between 55 and 75%, depending on an R-factor (1.5-3.5).

 $^{^{2}}$ CIT = corporate income tax.

³ E.g. possible offshore status for wholly exporting companies, accelerated depreciation, duty-free equipment import, no withholding tax.

⁴ the R factor is the ratio of company's cumulative net revenue to the cumulative expenditures.

In December 1996, MOL signed an exploration contract as a sole operator with Syria on the 4800 sq. km Palmyra East block. According to Van Meurs, this contract was prepared for gas exploration.⁵ The Syrian Government recently increases the ratio of natural gas in its energy balance and according to the official plan, natural gas is targeted to provide 30% of Syria's total energy demand by the year 2000, compared with only 3.4% in 1988 [8]. Further, the country can save an estimated \$500-600 million annually if power stations were to switch from oil fuel to gas. Syria wants to increase development on the Palmyra block, which is situated in Cental Syria, and is much closer to populated areas than its north-eastern gas reserves [9].

Despite Syria's aims, the fiscal terms of MOL's contract are very tough. The contract is based on PS, and all terms are negotiable. 'Foreign companies can conduct petroleum operations through contracts with the *Syrian Petroleum Company* (SPC)' [6], which joins the works at the production stage. The contractor has to undertake and fund all operations, thus allowing SPC to take a free equity (which ammounts to 50% in MOL's contract).

MOL is obliged to spend \$12 million at least on exploration in the first three years. This exploration period can be extended up to 7 years (with two additional increases of two years) with relinquishment between 25-25% of the area at the end of the first two phases. No signature bonus was payable on this contract, but there are significant production bonuses at 50,000; 100,000 and 200,000 *barrels oil per day* (BOPD) extraction levels of \$2, 4, 8 million, respectively. The contract contains a fixed royalty at 12.5%.

The cost-recovery ceiling for the whole duration (25 years) of the production is 33%. In other Syrian contracts the cost-recovery limit moves on a sliding scale from 25-30% to 20-24%, depending on production level. Compared to these, MOL's conditions are very favourable.

Exploration costs can be amortised at 100%/year, which contrasts with development expenditures amortised at 20% only. Profit share is performed according to a sliding scale for the reminder oil/gas after royalty and cost recovery. The contractor's share varies from 31% (at production levels up to 12,500 BOPD) to 12% (for production over 200,000 BOPD). If there is an excess cost of gas/oil, then 50% of that goes to SPC and the other half is split, according to the profit gas/oil split. The concession area is ring fenced.

Yemen

MOL has signed two contracts for exploration in Yemen. The first one was for the south-east Al Maber (block 49) signed in April 1997; and the second one for North Mukulla block in February 1998.

After the unification of the two parts of Yemen in 1990, the country faced serious economic problems. During the war between the two Yemens in the 1980s oil industry installations were seriously damaged [10], and therefore the country wants to encourage the entry of foreign firms in order to strengthen its economy by increasing oil production.

The country's difficult terrain makes explorations very expensive [10]. Seismic investigations during the 1950-70s did not lead to perspective results: however, serious fields were found by the Hunt Oil Co. in the 1980s [11]. Proved reserves were estimated in 1996, to be 4.2 billion barrels, that is comparable with the UK reserves [4]. 'Oil bearing zones have not been accurately quantified to any serious degree,'[10] and many

⁵To make the fiscal terms comparable with the other ones, all numbers were converted to oil equivalent.

specialists believe in existence of far greater reserves because of the similarity of geologic structures with the Saudi-Arabian ones. Van Meurs considers there to be less geological risk in Yemen than the global average.

The fiscal terms reflect these hopes, and are among the toughest in the world. However, Van Meurs mentions that Yemen has recently negotiated terms with slightly better conditions fo rinvestors. The following description is based on the 1993 Model Contract which has been used as a base for all published contract terms [10].

Contracts are based on PS, where all terms are negotiable. The government forms a joint operating venture with the contractor and takes a 50% free equity share at the start of production.

The exploration stage for MOL's first contract lasts seven and a half years, containing three phases with 25% relinquishment at the end of each phase.

There is a significant signature bonus (\$20 million) and a 'training bonus' (\$100,000–150,000) must be paid annually even at the exploration phase. Bonuses are not cost-recoverable and exploration expenditures are taxed at a 3% level.

Production bonuses are negotiable, - however a \$1 million bonus is usually payable at the start of production, and a further \$1 million must be paid after reaching the 25,000 and 50,000 BOPD levels.

The royalty is staled in the model agreement as 10%, but current provisions implement a sliding scale royalty based on production level, starting at 3% below 25,000 BOPD and reaching 8% over 100,000 BOPD.

The model contract allows 23-26% of net production (excluding royalty) for the use of cost recovery, but current amendments can increase this to 50-70%. Exploration costs can be amortised by 100% per year, and development expenditures by 20% per year. There is a ring fence around the contract area. The government takes between 70-80% of the remaining oil. The rate changes on a sliding scale by 25,000 BOPD increments.

The JV with the State gives an umbrella for the contractor on income taxes and customs duties [10].

Further, there is a \$400,000 bonus payable annually for social development (\$200,000), training (\$100,000) and institutions (\$100,000) during the production.

Albania

Albania started its transition to a market economy in 1992, having previously been one of the world's most closed economies. Western European models and international guidelines were used to set up the new legislative framework for the setting out economic regulations [12].

The main purpose of the Albanian Government was to encourage foreign investment in its new, southern oil fields, as well as for the modernisation of equipenment for extraction [13]. Albertol, the state oil company is 'authorised to enter into agreements with private companies to assist in exploration and exploitation'[6].

Current Albanian fiscal terms result in a world-average regime and they are especially beneficial for small oil fields. The Albanian contracts are based on PS, where all terms are negotiable except the CIT.

The duration of exploration phase is negotiable, but for onshore contracts this can extend up to five years. There is a negotiable signature bonus which varies in recent contracts between \$200,000 and \$2 million.

The production phase extends to 25 years, and can be extended by a further five years. Bonuses are payable at the start of production (\$0.25 million) and after reaching production levels 25,000; 50,000 and 75,000 BOPD (\$1 million).

The Albanian fiscal system does not include a royalty. Exploration costs can be recovered for the full, and development costs can be depreciated by a 20-25% annual rate. A negotiable cost-recovery ceiling has been introduced which varies between 50-60%. Losses can be carried forward for 3 consecutive years in addition to the year when the loss occurred [14].

The government takes between 10-55% of the remaining part as 'State Oil' (SO). The SO rate moves on a sliding scale linked to production levels. The company's profit oil is taxed at a rate of 50%. However, credits of up to 60% are available for reinvestment [12].

The Albanian government offered tax relief for oil and gas exploring companies as a maximum 40% uplift of the tax rate, which depends on field quality and on the investor's relationship with Albertrol. Another available relief is the clearing of import duties on equipment and employee's personal income tax of contractors and subcontractors [12].

Greece

MOL acquired a 20% share of exploration of two blocks in the Ioannina and north-west Peloponnees contract areas offered by the First International Licensing Round issued on 30 November 1995. This bidding round was preceded by the acceptance of the new Hydrocarbon Law in 1995. The aim of the new law and the bidding round was to encourage an investment environment 'which would represent a fair balance between state, DEP-EKY [the Greek state oil company] and the international companies.'[15] The oil field is geologically barely examined, but 'according to the indications, the area is rich and may cover 20% of the annual need' of Greece [16]. Currently producing Greek oil fields appear around the eastern islands of the Aegean Sea [17].

Fiscal conditions offered for the 1995 bidding round are very favourable. The Hydrocarbon Law allows for the use of both royalties/CIT and PS systems, but the contracts were based on royalties/CIT schemes.

According to the Hydrocarbon Law, the DEP-EKY participates in JV with a 12% share both in the exploration and exploitation stages. In case of a successful discovery, DEP-EKY can increase its share as a carried interest party up to 35% [18]. The JV is obliged to spend minimum \$37 million on exploration.

A six-year exploration phase is available, which can be extended by a further three years if technical problems appear or more appraisal is needed. No bonuses are payable, but \$20,000 was asked for the initial data package. Land rent fees are payable to encourage the relinquishment of non-used territory.⁶

The production period extends to 25 years and the royalty shifts on a sliding scale between 2-15% pegged to an R-factor (the terms of which are negotiable (0.5-2.0)). Royalties, rental and interest costs as well as operating costs are deductible. Depreciation of exploration and development costs are applicable on a negotiable rate which varies between 40-70% (assumed 55%). Losses can be carried forward unlimitedly. Ring fence is fixed 'around the contract area, however, up to 50% of exploration costs in one contract area may be offset against revenues from a producing field in another one.'[6] CIT represents 40% of the net revenue.

 $^{^6}$ Annually \$10/km² for initial exploration, \$15/km² for second exploration phase, $$20/\mathrm{km}^2$$ for exploitation.

COMPARISON OF THE FISCAL SYSTEMS BY PROJECT ANALYSIS PARAMETERS

The nature of the fiscal efficiency of the discussed countries are summarised in the analysis below. Because MOL is primarily interested in the development of medium-size fields, estimations were taken into consideration for fields with reserves of between 30 and 100 million barrels only. Numbers indicate the total government take as well as government take for the first 10 years and for the remaining time. Data on proved reserves was taken from World Energy Year Book 1997. The maximum sustainable risk was estimated by using Expected Monetary Value method of Van Meurs. To compare the fiscal regimes, spreadsheets were built by this author, using costs and revenues of model oil fields. Current real data on these fields are confidential, therefore the author was not able to use this. Instead, assumptions used were based on consultations with MOL's experts; on MOL's official strategy [1]; on literature data [19], [20]; as well as on framework terms of the examined contracts with the following criteria:

for south European and Tunisian fields 50 million barrel recoverable oil to be extracted by 25 years,

for fields in Gulf countries 150 million barrel oil to be recovered by 25 years.

The spreadsheets contain the assumed undiscounted exploration, development, operation costs and an expected revenue from the field. The revenue was distributed according to the fiscal conditions of the examined contracts. Results are summarised in **Figs. 1-5**.

Analysis

1.) From the examined countries, Syria has the worst conditions. The data of the **Table I**. and **Fig. 1**. show that small fields (with 30 million barrels of oil or oil-equivalent gas) will not profitable. Government take is between 95-100% in the first ten years. The reasons of these unfavourable conditions are the following:

The royalty for the Syrian contract is high (12.5%) and fixed for the whole length of production.

The cost recovery ceiling is low (33%) and fixed, therefore the exploration expenditures will be depreciated in the long term (up to 10 years) as is usual for PS agreements. Considering the *time value of money* (TVM), this situation is not preferable.

There is a high rate of state profit oil (69-88%).

The State takes the excess oil on a tough ratio after the recovery of E&D expenditures.

The SPC takes a 50% free equity from the profit oil.

It is clear from Fig. 1. that production bonuses do not play important role in this

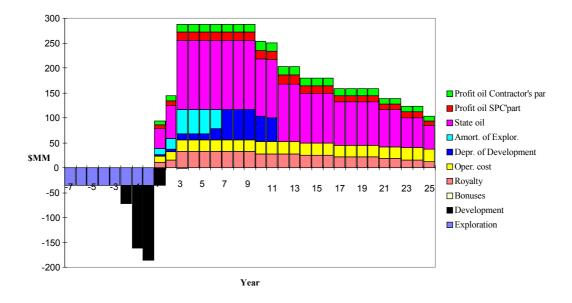


Fig. 1. Distribution chart of revenues and expenses for a Syrian model block system.

2.) Conditions of Yemen are better for larger fields. The numerous and considerable upfront bonuses make the small fields unprofitable (**Table I.**, **Fig. 2**.). There is a sliding scale royalty, based on production level, which is moderate for small and medium-size fields (3-10%). This is a better condition than the Syrian fixed royalty. Depreciation extends to a very long term because of the low cost-recovery ceiling (23-26 %). Considering the TVM, this results in very tough conditions. The government take is high and similar to the Syrian one, both for state oil and for free equity. There are continuous bonuses which are not so significant in this system. NPV@15⁷ values for small fields both in Syria and Yemen are negative.

⁷The net present value of the project at 15% discount rate.

Summary of some fiscal indexes for the examined countries.

Country	Govern- ment take type	Duration of production (years)	30 MM BBL field					100 MM BBL field					Proved oil reserves	Maximum sustain- able risk	MOL's share as operator
			Government take (%)			IRR (%)	NPV@15	Government take (%)			IRR (%)	NPV@15 (MM \$)	(MM BBL)		
	<u> </u>		a		Ü		(MM \$)	a		υ		(IVIIVI \$)	DDL)		
Syria	PSC	20	92		8	<0	87		18	200	1730	very low	100%		
			100		84			95		83					
Yemen	PSC	20		80		12	<0		74		28	800	4200	very low	100%
			85		73			78		72					
Tunisia	Royalty /	30		81		37	650		82		58	800	280	average	100%
	CIT		77		83			78		83					
Albania	PSC	25		66		37	1250		67		56	1450	200	average	15%
			61		70			65		68					
Greece	Royalty /	25		55		48	1900		57		76	2100	< 100	high	20%
	CIT		52		57			52		58					

Sources: Van Meurs World Fiscal System for oil 1997 (New York, Barrows, 1997), World Energy Yearbook 1997 (Paris, IEA, 1997)

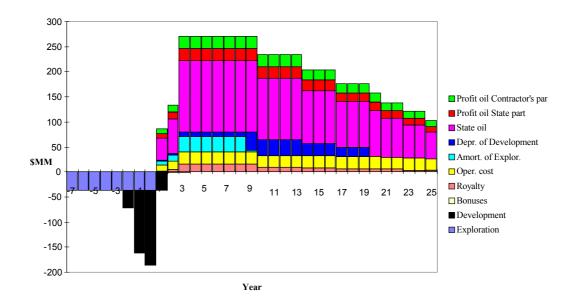


Fig. 2. Distribution chart of revenues and expenses for a Yemeni model block

3.) Tunisian conditions are considerably better and are comparable with the Albanian ones. The Tunisian fiscal system is practically inelastic for the field size. The fiscal conditions are strict (55-75% CIT) but simple (Fig. 3.). The R-factor based sliding scale royalty and CIT as well as the deduction conditions of the royalties/CIT system make the Tunisian contract preferable. The NPV@15 value is positive even for small fields and reaches the world average.

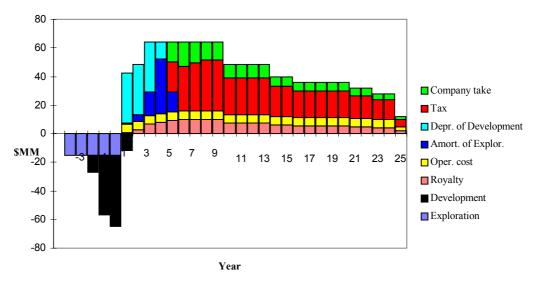


Fig. 3. Distribution chart of revenues and expenses for a Tunisian model block.

4.) The lack of royalty in the Albanian PS agreement, the tax reliefs as well as the relative low state profit oil levels (10-55% on a sliding scale) make the conditions far better than that of the two Middle eastern countries (Fig. 4.).

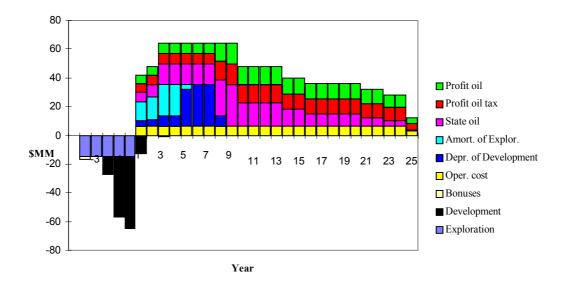


Fig. 4. Distribution chart of revenues and expenses for an Albanian model block.

5.) Greek conditions are good. Both Albanian and Greek fiscal regimes allow to receive much more NPV@15 than the world average. The R-factor based royalty, the wide-range deduction possibilities and the low rate (40%) CIT make the Greek system very favourable (Fig. 5.).

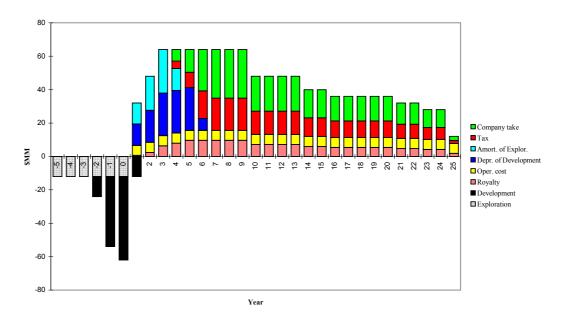


Fig. 5. Distribution chart of revenues and expenses for a Greek model block.

The data in Table I. shows that government take during the first 10 years is lower in Greece, Albania and Tunisia than in the remaining period. This is an important incentive for firms.

The amount of proved reserves reflect inversely the fiscal conditions. The small Western Balkan and Tunisian reserves are barely comparable with the significant ones of the Middle Eastern countries. **Table I**. shows that MOL could enter as a sole contractor only in countries with less-preferable fiscal conditions.

According to Blitzer *et al.*, firms take less risk with PS contracts than with royalties/CIT ones. With a PSC, company bears all the cost risk and a proportionate share of a geologic and revenue risk [21], while with a royalties/CIT contract it bears all the project risk. The examined fiscal regimes seem to prove this statement.

CONCLUSION

Except for Syria, all the examined countries are basically interested in oil extraction. Syria in contrast puts emphasis on gas field development. The fiscal terms reflect different policy considerations and the countries can split into three identifiable groups.

Investment conditions in the two Middle Eastern countries – Yemen and Syria – are very tough: they explain that these countries have large reserves with a smaller geological risk than the world average. Consequently, the governments do not want to give any incentives for the contractors. These fiscal regimes require a finding of a relatively large field (hundreds of million barrels of oil) in order to be profitable. This requirement increases the overall risk of the exploration. Taking into consideration that MOL is a small and relatively new firm in the international oil business, with a small financial background, the firm has taken quite large risk with the Yemeni and Syrian agreements where it acts as a sole contractor.

The Albanian and Tunisian fiscal regimes reflect that these countries understand the limits of their reserves and they want to develop these effectively. Their fiscal terms are relatively good and reflect the world average. Proved reserves of these countries are not so significant, therefore the better fiscal conditions diminish the overall risk on exploration. The Tunisian contract has already yielded a 11 million barrel field. This is much lower than the minimal commercially viable field, but it does show the chance for the success in that country.

The Greek conditions are very good. Greece, as an EU-member offers quite generous conditions which attract foreign investment easily. It is worth mentioning that currently MOL could not acquire a contract alone in countries with a fiscal conditions better than the world average. The competition for fields in a country with good fiscal conditions (e.g. Greece or Albania) is probably too high and MOL is still too small and young to acquire most foreign fields in countries with fiscal terms similar to Hungary.

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