Assessment of the Operation of the Iberian Energy Forward Markets

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ABSTRACT

A comprehensive assessment of the trading development in the Iberian power futures market managed by OMIP (Iberian Energy Market Operator, Portuguese Pool) in its first four and a half years of existence is performed. Evolution of the traded volumes in the continuous market is modelled as a function of factors supposedly performing as key liquidity drivers. This market has steadily grown in number of participants and traded volumes, but still is very far from the levels reached by the most mature European markets (Nord Pool and EEX). Liquidity in the continuous market is favoured by the dominant and fast growing "Over The Counter" (OTC) market, by OTC cleared volumes in the futures market, and by the enrollment of financial agents. Supervision of this market and the regulated forward contracting mechanisms of power and gas in the Iberian Energy Market has been successful. Stronger cooperation between Iberian financial and energy regulators will bring oversight gains, especially for the OTC power market. New Spanish energy derivatives clearing houses and European legislative developments about market integrity and transparency in energy markets will contribute to stronger oversight.

Keywords: Futures Market, OTC, Forward Contracting Auctions, Energy Regulation, Market Supervision.

1. INTRODUCTION

Capitán Herráiz and Rodríguez Monroy (2010) provided a thorough description of evolution of the Iberian power futures market managed by OMIP, located in Lisbon (Portugal), during its first three and a half years of existence. The current research enlarges the data set one year more (from the start of that market on July 3, 2006, to December 31, 2010) and presents a regression model using Ordinary Least Square methodology. The model intends to assess the effect of the drivers for a key liquidity measure: the evolution of the energy traded in the continuous market. This analysis serves to determine if this market is performing properly according to its original role as key hedging vehicle. The power futures market is only a small part of the whole Iberian energy forward market: only 11% of the volumes traded in the dominant OTC market are registered in the futures market for clearing and settlement by the clearing house OMIClear (OMIP-OMIClear, 2010; Intermoney, 2011). A description of the Iberian regulated forward contracting mechanisms for electricity and gas is done in order to provide a comprehensive picture of the Iberian energy forward market. Due to the involvement of energy and financial regulators in the supervision of energy derivatives, a short overview of existing experiences regarding cooperation of energy and financial regulatory authorities is provided. Additionally, an overview of the new European legislative proposals affecting financial markets –and thus, the particular case of energy derivatives– is sketched.

The article is structured as follows: (i) Section 2 analyses the trading drivers of OMIP continuous market, evaluating the performance of the futures market; (ii) Section 3 provides regulatory reflections for streamlining the supervision and the efficienct operation of the Iberian energy forward markets, based on the findings of the previous section, on the description of the Iberian regulated forward contracting mechanisms, on previous experiences of formal cooperation between energy and financial regulatory authorities, and on the current

European legislative developments regarding energy derivatives; (iii) Section 4 summarises all the insights of the research and concludes.

2. ANALYSIS OF THE TRADING DRIVERS IN OMIP CONTINUOUS MARKET

2.1 OMIP-OMICLEAR TRADED AND CLEARED VOLUMES VERSUS CESUR AUCTIONS AND THE OTC MARKET

Figure 1 shows the evolution of OMIP-OMIClear traded and cleared volumes and the matched volumes in each CESUR auction. There are two market modes in OMIP: the continuous market and the call auctions. Whereas the former is the main mode, the latter has performed a key role in the development of the liquidity in OMIP, as the Spanish distribution companies and the Portuguese last resort supplier were obliged to purchase energy in such auctions until July 2009 and July 2010 respectively. OMIP clearing house (OMIClear), located in Lisbon, permits the clearing and settlement of OTC volumes of OMIP trading members, either bilaterally or through one of the 2 brokers registered in OMIP. Such OTC volumes cleared by OMIClear are also shown in Figure 1. Since June 2007, 13 CESUR auctions have been celebrated where the Spanish distribution companies acquired the energy for their regulated supplies. Since the 9th auction, such a role was taken over by the last resort suppliers (CESUR stands for "*Energy Contracts for the Last Resort Supply*") (OMIP-OMIClear, 2010; CESUR, 2010).

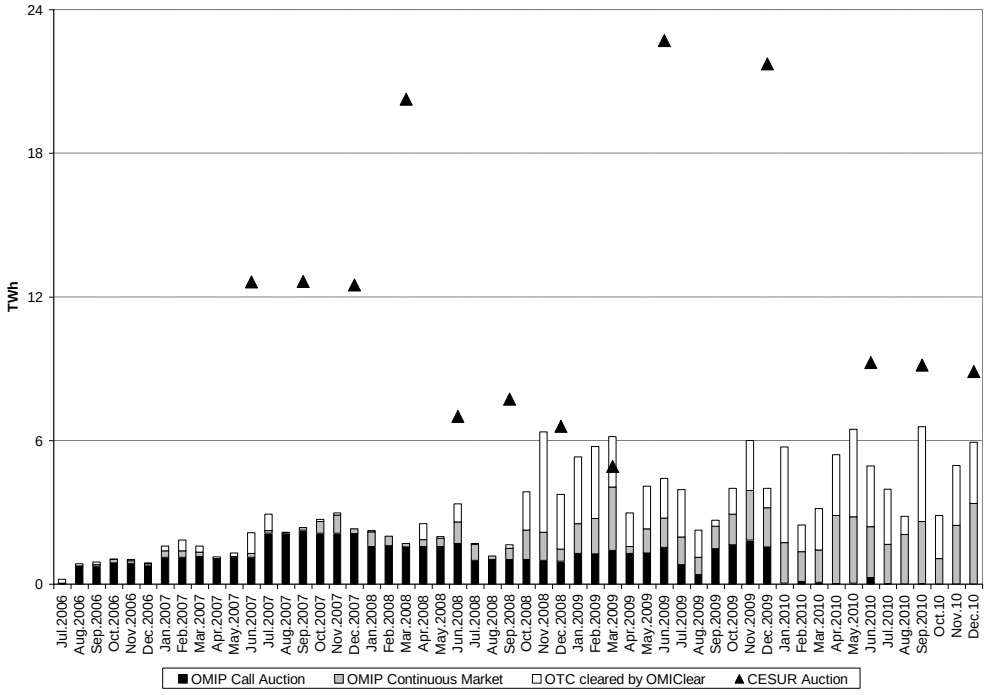

Figure 1. Evolution of OMIP-OMIClear traded and cleared volumes versus CESUR volumes (TWh). Sources: OMIP-OMIClear (2010), CESUR (2010)

It can be observed the dominance of the compulsory call auction volumes in the first two years of existence of the futures market. Since that moment until the end of year 2009 the volumes of the continuous market reach a similar size compared to the call auction volumes. Afterwards, the continuous market volumes follow growing. The quarter with biggest negotiation in OMIP continuous market was the second quarter of year 2010, but the month with record volumes was December 2010 (3.37 TWh). During year 2010, the scarce call auction volumes were due to compulsory call auctions only for the Portuguese last resort supplier and regarding peak futures. The liquidity of the peak futures is almost null in the continuous market. The OTC cleared volumes reached a record volume in November 2008 (4.19 TWh). This part of the OTC volumes would probably keep a growing pace, due to increasing volumes in the OTC market since 2006 (Intermoney, 2011), and also due to new clearing house initiatives in Spain and European regulatory developments described in Section 3. In the first four and a half years

of the Iberian power futures market, 168.94 TWh have been cleared by OMIClear, whose origin is as follows: 55.36 TWh come from OMIP call auctions, 50.92 TWh come from OMIP continuous market, and 62.65 TWh are OTC trades cleared by OMIClear. As a rule of thumb, the three sources provide each one roughly 1/3 of the cleared volumes by OMIClear (OMIP-OMIClear, 2010).

According to the futures market operator, the last quarter of year 2010 provided several records regarding trading volumes in the continuous market: during one session (0.579 TWh), during one week (1.26 TWh) and during one month (3.37 TWh). The futures market became less concentrated during year 2010 and the market share of the three biggest players at OMIP accounted for 40% in the last months of 2010 (OMIP, 2011a). Such a share compares well against the generation market concentration: in Spain, for year 2009, the 3 largest generators' market share, based on the installed capacity, covers around 67%, and in Portugal around 75% (Capgemini, 2010). The 13 CESUR auctions celebrated so far and shown with black triangular markers in Figure 1 reckon a traded volume of 155,95 TWh, very similar in order of magnitude to the total cleared volumes by OMIClear (CESUR, 2010). The steady growing OTC market summed up approximately 563 TWh in the first four and a half years of OMIP existence (Intermoney, 2011). Comparing this figure with OMIP and CESUR volumes, the OTC is 3.3 times bigger than the volumes cleared by OMIClear and 3.6 times bigger than the matched volumes in CESUR auctions. The OTC volumes are 11 times bigger than OMIP continuous market.

2.2 REGRESSION MODEL OF THE TRADING DRIVERS IN OMIP CONTINUOUS MARKET

A regression model using Ordinary Least Square methodology is built to assess the impact of different trading drivers in the development of the traded volumes of OMIP continuous market. The model is composed of 12 variables (constant a_0 is included) supposedly explaining the monthly evolution of the traded volumes in the continuous market (GWh_Cont_t). Error term is expressed through ε_t. The variables are:

- Nr_Integr_t, $Nr\_Non\_Integr_t$, and Nr_Financ_t showing respectively the number of integrated, non integrated, and financial trading members (note that on December 31, 2010, the following trading members are registered in OMIP: 5 Spanish distribution companies –though since January 1, 2011, they do not follow as OMIP trading members–, 5 Spanish last resort suppliers, and 1 Portuguese last resort supplier; 7 generation companies/suppliers belonging to Spanish vertically integrated groups identified as "Nr_Integr_t"; 11 international energy traders not belonging to the previous group and indentified as "$Nr\_Non\_Integr_t$"; and 9 financial entities (investment banks and brokers) identified as "Nr_Financ_t");
- GWh_auct_t, GWh_OTC_t, and $GWh\_OTC\_cl_t$ showing respectively the traded volumes in OMIP auctions, in the OTC market, and the cleared OTC volumes in OMIP;
- $Nr\_trading\_sessions_t$ indicates the number of OMIP sessions per month;
- $FM_{t+2,t}$-S_t is a forward risk premium measuring in absolute value, for each month *t*, the difference between the arithmetical average of OMIP settlement prices for the month baseload futures with delivery 2 months later ($FM_{t+2,t}$) whose underlying spot price corresponds to the Spanish zone –as for the Portuguese zone such futures contracts are still very illiquid– and the average underlying spot price of the Spanish zone during that month *t* (S_t). Research built upon the forward risk premium in order to measure the price efficiency of the Iberian power futures market as well as other main European power markets (Nordic Nord Pool and French Powernext), and fossil fuel markets (British National Balancing Point for gas, German European Energy Exchange for coal and InterContinental Exchange for Brent crude) can be found in Capitán Herráiz and Rodríguez Monroy (2009). In the regression model, the forward risk premium is expressed in absolute value in order to give the same importance to the positive and negative values regarding the development of traded volumes;
- $Expans\_Cont_t$, Mkt_Makers_t, VPP_CESUR_t, $Cont\_Comiss\_Disc_t$ are dummy variables recording respectively: (i) the expansion of the continuous trading phase ("0" until December 2007, "1" since January 2008 onwards; note that OMIP trading sessions are split in four sequential phases: *pre-trade*, *call auction*, *continuous trading* and *pre-close*); (ii) the existence of *market maker agreements* ("1" for the months with agreements in force, "0" otherwise; until the end of year 2010, 4 market makers have been active in OMIP); (iii) the celebration of *regulated auctions* ("1" for the months with celebration of such auctions, "0" otherwise; as previously mentioned, 13 CESUR auctions have been celebrated during the

first four and a half years of OMIP; "VPP" stands for "*Virtual Power Plant*" auctions in which call options regarding virtual generation capacity are sold by the incumbents to the new entrants in order to promote competition and foster the development of the forward markets; in the period considered in the research, 7 VPP auctions have been celebrated in Spain (known in Spanish as "EPE", *Emisiones Primarias de Energía*, and 4 auctions in Portugal); (iv) the existence of *discount campaigns* related to OMIP trading commissions ("1" for the months with campaigns, "0" otherwise);

Good compliance should render positive values for coefficients a_1 to a_{12} with significant values for their t-statistics, as well as high value of R^2 statistic. In the case of the forward risk premium, shall such a driver be significant, the agents could exploit *price arbitrages* close to the expiration of the contract, increasing the traded volumes in the continuous market. For the t-Student test, a level of confidence of 95% with 2 tails is considered. The number of observations is 54 (monthly values during four and a half years). The regression model is mathematically expressed as follows:

$$GWh\_Cont_t = a_0 + a_1 * Nr\_Integr_t + a_2 * Nr\_Non\_Integr_t + a_3 * Nr\_Financ_t + a_4 * GWh\_auct_t + a_5 * GWh\_OTC_t + a_6 * GWh\_OTC\_cl_t + a_7 * Nr\_trading\_sessions_t + a_8 * Abs(F_{M_{t+2},t} - S_t) + a_9 * Expans\_Cont_t + a_{10} * Mkt\_Makers_t + a_{11} * VPP\_CESUR_t + a_{12} * Cont\_Commiss\_Disc_t + \varepsilon_t$$

As shown in Table 1, the model renders high R^2 (0.86) and the following findings: the only significant variables (t values bigger than 2.02), all with positive coefficients as predicted, are the *OTC cleared volumes* in the futures market, the *OTC volumes* themselves, and the *number of financial agents*. The OTC volumes cleared by OMIClear have grown due to the fast grow of the OTC market and due to OMIClear commission discounts. The following insights can be drawn: in the long term, OMIP continuous volumes are sustained by themselves without the need of the compulsory call auctions. However OMIP marketing campaigns regarding expansion of the continuous phase, promotion of commission discounts and captation of market makers seem not influence notably the development of the continuous market. A closer *dialogue* of OMIP with the *stakeholders* and with the *regulatory authorities* would let OMIP identify the most important needs of the agents. The regulated forward contracting mechanisms (VPP and CESUR auctions) neither influence much the development of the continuous market, due to the fact that the frequency of such auctions is not high (every three months in the case of CESUR auctions; the last VPP auction was celebrated in March 2009). Both CESUR and VPP auctions could be celebrated more often to promote forward contracting and provide more price signals, but a thorough *cost-benefit analysis* should be done by the regulatory agencies, as the celebration of electronic auctions implies substantial *administrative costs* –150.000 euros in the case of CESUR auctions (for electricity) and similarly for gas– as stated in the regulatory pieces for such auctions (e.g. MITyC (2010a; 2010b)). Cost-benefit analysis of stronger regulation versus market failures is well described by Joskow (2010).

The model can be enriched taking into account potential drivers, for instance, the enrollment of big *industrial consumers* (of the 38 agents registered in OMIP at the end of year 2010, there is not such large consumers yet, being the structure of this market not equilibrated so far, limiting its efficiency). Another interesting potential driver is the start of the energy derivatives clearing house in Spain, the so-called *MEFF Power*, with start on March 21, 2011 (BME, 2011). OMIClear has manifested its interest to establish its activities in Spain as well (OMIP, 2011b). Further research is encouraged to measure the impact of the new clearing house initiatives in Spain both on the cleared volumes by OMIClear and on the traded volumes in OMIP continuous market.

Though the traded volumes in OMIP and the cleared volumes by OMIClear follow a growing trend, as well as the enrolment of the trading members, the development of the Iberian power futures market is still very far from the most mature European energy derivatives exchanges (EEX and Nord Pool). As shown in Capgemini (2010), for the year 2009, whereas 31 TWh were traded in OMIP and 20 TWh from OTC trades were cleared by OMIClear, 1,025 TWh (traded) and 740 TWh (OTC cleared) were registered in EEX, and 1,220 TWh (traded) and 943 TWh (OTC cleared) were registered in Nord Pool. These two exchanges perform quite more efficient than OMIP, as liquidity exists for baseload and peak products as well as for the different derivatives traded (power and other energy related markets as gas, coal and CO_2). Additionally those markets have a much ampler range of trading members, with participation of many municipalities and large industrial consumers, equilibrating the participants' structure and theoretically providing more robust price signals.

Table 1: Regression model results for the traded energy in OMIP continuous market. Source: authors

Coefficient	Value	t-test	Significance
a_0	-2,080.69	t_0	-1,07
a_1	205.46	t_1	0.82
a_2	-69.54	t_2	-1.55
a_3	186.05	t_3	2.31
a_4	0.17	t_4	1.24
a_5	0.05	t_5	2.83
a_6	0.20	t_6	2.71
a_7	35.65	t_7	0.83
a_8	14.14	t_8	0.83
a_9	-311.01	t_9	-1.12
a_{10}	-119.54	t_{10}	-0.43
a_{11}	203.08	t_{11}	1.45
a_{12}	-2.62	t_{12}	-0.02
R^2	0.86	t	2.02

3. REGULATORY REFLECTIONS FOR THE EFFICIENT SUPERVISION OF THE IBERIAN ENERGY FORWARD MARKETS

3.1 THE REGULATED FORWARD CONTRACTING MECHANISMS FOR POWER

The futures market commenced on July 3, 2006 and no major incidence has been reported by the market operator. OMIP surveillance unit monitors all the transactions and impose penalties in case the trading rules are breached (OMIP, 2010). The VPP and CESUR auctions have also run smoothly and thus no incidence has been reported by the respective auction administrator. Since July 1, 2007, there are 2 price zones (Spanish and Portuguese) for the spot market within the Iberian Electricity Market (the "MIBEL"). In case of congestion in the cross-border trading, *market splitting* mechanism is applied providing 2 prices (the most expensive one corresponds to the zone where the congestion arises, i.e, the importing zone). Such a mechanism has allowed the introduction of futures contracts in OMIP –though still very illiquid– on the Portuguese zone, as the original spot market is based on the Spanish zone. Additionally, since June 2009 and until end of year 2010, 4 auctions have been celebrated of *financial contracts for differences* for export of electricity from Spain to Portugal (OMEL, 2010a). The supervision of these auctions has been succesful, with no incidences reported by the auction administrator. Thus, the operation and supervision of the MIBEL forward contracting mechanisms have been succesful so far.

The biggest forward traded volumes within MIBEL come from the opaque OTC market, existing since 1999. New clearing houses in Spain will presumably increase the OTC volumes cleared and settled by a central counterparty. Due to the importance of an overall supervision assuring adequate OTC price formation, which influences the price of the related regulated forward contracting mechanisms, and detecting any misbehaviour, it is key that financial and energy regulators co-operate for the OTC market oversight. The Memorandum of Understanding (MoU) signed on May 17, 2011, by the entities composing the MIBEL Regulatory Council –Spanish energy regulator (CNE), Spanish financial services authority (CNMV), Portuguese energy regulator (ERSE), and Portuguese financial services authority (CMVM)– for the cooperation and efficient MIBEL supervisory coordination will facilitate the OTC information exchange and thus provide key supervisory gains. Extension in the future of the MoU coverage to the Iberian gas market –the current situation of this market is described in section 3.2– would be key to ensure a global supervision of the Iberian energy market. Furthermore, inclusion in the MoU of further duties based on the best practices of similar existing experiences, described in Section 3.3, would yield oversight and operational gains.

3.2 THE REGULATED GAS FORWARD CONTRACTING MECHANISMS AND THE NEED FOR A GAS EXCHANGE

Since year 2008, there are three kind of electronic gas auctions for the Spanish gas market, all of them managed by a daughter company of the market operator of the spot power market (OMEL) and supervised by CNE:

- For the *purchase of operation gas* and gas covering the *minimum level needed in regasification plants, transport network and underground storages*: such a gas is bought by the Transport System Operators (TSOs) and sold by the shippers in a *descending clock* auction. Three auctions have been celebrated until end of year 2010: in June 2008, May 2009 and May 2010 [OMEL, 2010b];
- For the *capacity in the underground storages*: the remaining capacity once the primary capacity is allocated to the shippers through *first come first served* mechanism, is auctioned following an *ascending clock* algorithm. Three auctions have been celebrated until end of year 2010: in April 2008, March 2009 and March 2010 [OMEL, 2010c];
- For the *purchase of gas for setting the last resort tariff*: the last resort suppliers purchase gas in these auctions in order to cater their regulated supplies. The gas is sold by shippers in a *descending clock* auction. Two products are offered: base gas (covering the whole gas year) and the winter gas (for the bigger consumption in such a season). Three auctions have been celebrated until end of year 2010: in June 2009, June 2010 and October 2010 [OMEL, 2010d].

In the Portuguese market, OMIP-OMIClear has managed the first gas auction, on February 10, 2009, consisting of a gas release of 300 million m^3 by Galp with an ascending clock auction mechanism. On February 17, 2009, OMIP managed a descending clock auction combined with sealed bid for the acquisition by REN Armazenagem, S.A., of a target quantity of 60 million m^3 of cushion gas for its third underground storage facility (OMIP, 2009). All the cited auctions have performed well and are currently the unique forward price signals in the Spanish and Portuguese markets. Regulatory harmonisation is currently developed in both markets in order to reach their complete integration. Such a common market is known as MIBGAS (Mercado Ibérico del Gas).

As stated in CNE (2010b), regarding the spot market in Spain, the shippers can currently exchange gas and capacity bilaterally in the diverse infrastructures (mainly in 6 regasification plants, a balancing point for the underground storages, and a virtual trading point acting as a *National Balancing Poin*t in the transport network) through the platform provided by the TSO (Enagás). Such a platform is known as *MS-ATR* (*Secondary Market-Third Party Access*). The liquidity is good, as 36 shippers are participating and the *churn ratio* –obtained as the traded volume divided by the demand– is around 2,5 in year 2010 compared to the churn ratio of OMIClear around 0,2 (obtained as the total volumes cleared by OMIClear against the demand at busbar in the Spanish power system) (OMIP-OMIClear, 2010; REE, 2011). Despite the MS-ATR good liquidity, no price is unveiled as shippers only use that platform to swap their gas without price disclosure. A regulated market fostered by a legal initiative could overcome this transparency gap. Enagas, a financial entity (BBK) and a public institution (*Ente Vasco de la Energía*, EVE) are trying to foster a Spanish gas hub providing spot price transparency (Cinco Días, 2011). An Iberian gas spot index could be built from that market, used as underlying spot price in a potential gas futures market, effectively complementing the regulated forward contracting auctions previously described.

3.3 THE FORMAL ARRANGEMENTS BETWEEN ENERGY AND FINANCIAL REGULATORS

Pioneering experiences of formal arrangements between national financial and energy regulators are highlighted:

- In the United Kingdom, the Financial Services Authority (FSA) and the Office for the Gas and Energy Markets (Ofgem) signed in April 2003 a Concordat regarding a framework for communication and co-operation, published on May 12, 2003 (Ofgem, 2003);
- In Italy, the financial regulator (Commissione Nazionale per le Società e la Borsa, "Consob") and the energy regulator (Autorità per l'energia elettrica e il gas, "AEEG") signed on August 6, 2008, a protocol for cooperation regarding the supervision of regulated markets for energy derivatives of electricity and natural gas (Consob, 2008);
- In France, the Autorité des Marchés Financiers (AMF) and the Commission de Régulation de l'Énergie (CRE) signed on December 10, 2010, an agreement for cooperation regarding the exchange of

information, the control and the supervision of the CO_2, electricity and natural gas markets, covering both spot and forward (energy derivatives) markets (CRE, 2010);

- In the United States, the Commodity Futures Trading Commission (CFTC) and the Federal Energy Regulatory Commission (FERC) signed on October 12, 2005, a MoU for sharing information and for the confidential treatment of proprietary energy trading data (CFTC, 2005).

The best practices stemming from these agreements could be taken into account to strenghten the coverage of the MIBEL Regulatory Council MoU, or any other formal arrangement related to the coordinated supervision of the Iberian Energy Market. For instance, due to the interdependences of energy and carbon markets –see e.g. Gulli (2008)–, a formal agreement could also be established regarding information exchange between the Ministry of Environment (the Spanish authority for the supervision of the CO_2 markets), CNMV, and CNE.

3.4 THE CURRENT EUROPEAN LEGISLATIVE INITIATIVES AFFECTING ENERGY DERIVATIVES

The cooperation between energy regulators and financial services authorities for the supervision of electricity and gas markets in the European Union is envisaged in the so-called *third energy legislative package* for electricity (Directive 2009/72/EC) and for natural gas (Directive 2009/73/EC) (European Union, 2009a; European Union, 2009b). In line with G20 recommendations –see e.g. European Commission (2009)–, both North American and European financial energy legislation are experiencing a remarkable review requesting the clearing of standardised OTC derivatives through central clearing houses. In USA, the financial reform has produced the so-called "*Dodd-Frank Act*", with impact for the supervision of OTC commodity derivatives. Regarding market transparency, such a law requires data collection and publication through clearing houses or swap repositories to improve market transparency, providing regulators with important tools for monitoring and responding to risks. Some traders are scared that the new legislation can produce trading constraints affecting the speculators' activity draining the liquidity of the markets (Mc Callion, 2010). In the case of the European Union, the financial reform with impact on the energy (electricity and gas) and carbon markets is undertaken through five channels:

- A new *Regulation for Energy Market Integrity and Transparency* (the so-called "REMIT"), structured as a sector specific tailor-made legislation to prevent *market abuse* –i.e. *insider dealing* and *market manipulation*– in the European power and gas markets. It has been led by the Energy Directorate (DG ENER) of the European Commission.The first draft was published in December 8, 2010. It is currently discussed and the co-decision procedure requiring the final approval of the European Parliament and the European Council is envisaged for the end of year 2011. Thus, the Regulation would presumably enter into force in year 2012 (European Commission, 2010a);
- A review of the *Market Abuse Directive* (Directive 2003/6/EC, known as "MAD") whose draft is expected for spring 2011. It is led by the Internal Markets Directorate (DG MARKT) of the European Commission (Kindler, 2010);
- A public consultation of the Directive for Markets in Financial Instruments (Directive 2004/39/EC, known as "MiFID"), led by DG MARKT, from 8 December 2010 to 2 February 2011. Legislative proposals will be drafted in Spring 2011 (Kindler, 2010; European Commission, 2011);
- A new Regulation for European Market Infrastructures (the so-called "EMIR") in order to mitigate the *systemic risk* by using central trade repositories to clear all standardized OTC contracts. The first draft was published on September 15, 2010. As for the equivalent legislation in USA (Dodd-Frank Act), there is mitigation for non-financial firms who use OTC derivatives for hedging purposes. It is led by DG MARKT (European Commission, 2010b; Kindler, 2010).
- The Directorate of the European Commission in charge of the carbon markets (DG CLIMA) published on 18 November 2010 a *Regulation for the European Emissions Trading Scheme* covering *market abuse* provisions for the CO_2 auctions (European Commission, 2010c).

In order to prevent undesired overlaps and regulatory gaps, the final structure and enforcement of all these legislative pieces have to be accurately orchestrated in order to produce the desired supervisory gains. For the energy derivatives supervision, due to their specificities as financial instruments, a central role should be played by the brand new *Agency for Co-operation of Energy Regulators* (ACER), fully operational since March 3, 2011 (European Union, 2009c). ACER could coordinate all the oversight actions for energy derivatives between

supervisory agencies especially in *cross-border* transactions. Due to the impact of CO_2 prices on energy prices, key competences of ACER and national energy regulators in the CO_2 oversight should be wise. The supervision of the Iberian energy market will profit from these regulatory initiatives, ensuring the proper market performance.

4. CONCLUSIONS

The Iberian power futures market managed by OMIP, starting on July 3, 2006, has steadily grown in number of participants and traded volumes, but still is very far from the levels reached by the most mature European markets (Nord Pool and EEX). Liquidity in OMIP continuous market is favoured by the dominant OTC market, by OTC cleared volumes in the futures market, and by the enrollment of financial agents. Supervision of this market and the regulated forward contracting mechanisms of power and gas within the Iberian Energy Market has been so far successful. Only 11% of the OTC volumes are cleared by OMIP clearing house (OMIClear). Stronger cooperation between Iberian financial and energy regulators is encouraged to bring oversight gains, especially for the dominant OTC power market. The Memorandum of Understanding signed on May 17, 2011, by the entities composing the MIBEL Regulatory Council will help to that purpose. This legal instrument may be enriched with provisions related to best practices arisen from pioneering formal arrangements for such a matter in European countries and USA. In the gas market, the only price signal is provided by forward regulated auctions. Thus, the creation of a hub, as organised spot market covering the *South West regional initiative* fostered by the European Regulators Group of Electricity and Gas (ERGEG) –this region covers Spain, Portugal and the South of France–, would be very necessary for the consolidation of this active market. New Spanish clearing houses for energy derivatives as well as European legislative developments, especially the REMIT draft regulation about market integrity and transparency in energy markets, will positively contribute to stronger oversight. REMIT should be finally designed taking into account the developments in other European financial legislation (the so-called *MiFID*, *MAD* and *EMIR* pieces) –and even with the *Dodd-Frank Act* financial legislation in USA– in order to avoid undesired loopholes, gaps, and overlaps, which ultimately would undermine the confidence in these markets and would favour *regulatory arbitrages*, damaging the efficiency of the European energy markets. The new European financial legislation impacting on energy derivatives will shape the intended larger supervision for the Iberian energy market. New regulatory developments should mitigate the existing weaknesses, mainly the small liquidity of some products traded in OMIP (week futures, peak futures, and baseload futures for the Portuguese price area) and the lack of gas price transparency. The strenghts –mainly sound regulation and supervision of existing electricity and gas auctions, as well as the positive evolution (though at a low pace) of bigger volumes and enrolled agents in OMIP futures market– can be considered in the development of Latin American energy derivatives markets. Pioneering experiencies in Latin American energy markets with renewable energy auctions –e.g. Brazil, see ARIAE (2011)–, would help to improve the price efficiency of the MIBEL forward market. MIBEL is characterized by high renewable penetration. The Spanish power forward prices are strongly correlated to European gas forward prices (CNE, 2010a). Thus such power prices are usually upward biased. Renewable energy auctions could help to build forward prices better reflecting the performance of the Iberian generation mix.

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