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Fuzzy not Crazy

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Long-term Energy Supply Contracts in European Competition Policy: Fuzzy not Crazy

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Abstract — Long-term supply contracts often have ambiguous effects on the competitive structure, investment and consumer welfare in the long term. In a context of market building, these effects are likely to be worsened and thus even harder to assess. Since liberalization and especially since the release of the Energy Sector Enquiry in early 2007, the portfolio of long-term supply contracts of the former incumbents have become a priority for review by the European Commission and the national competition authorities. It is widely believed that European Competition authorities take a dogmatic view on these contracts and systemically emphasize the risk of foreclosure over their positive effects on investment and operation. This paper depicts the methodology that has emerged in the recent line of cases and argues that this interpretation is largely misguided. It shows that a multiple-step approach is used to reduce regulation costs and balance anti-competitive effects with potential efficiency gains. However, if an economic approach is now clearly implemented, competition policy is constrained by the procedural aspect of the legal process and the remedies imposed remain open for discussion.

Index Terms — Long-term Contract, Competition Policy, European Union

JEL Classification — K21; L42; L44

I. INTRODUCTION

Long-term supply contracts (LTC) remain a pervasive feature of most European energy markets despite the progress of liberalization (DG COMP, 2007). To get out of the monopoly era, the current refining and harmonization of European market designs may be pointless if incumbents continue to use these contracts as market control devices (Neuman and Hirschhausen, 2006; Glachant and Lévêque, 2006). Indeed, these contracts frequently have anti-competitive foreclosure effects when competition is imperfect (Rasmussen et al., 1991; Segal and Whinston, 2000; Fumagalli and Motta, 2006) and these effects are likely to be worsened in a market building context. However, there is growing acceptance that their positive impact on investment makes them desirable as long as spot market competition

remains unsatisfactory (Chao et al., 2008; Finon and Roques, 2008). Welfare-enhancing aspects must thus be weighted against possible side effects on the current market building efforts of the European Union (EU).

Today, the allocation of regulatory powers in the EU is biased in favor of the *ex post* enforcement of EC antitrust law. The institutional structure of the European Union does not give to the European Commission the power to *ex ante* alter property rights in the different member states and thus to carry an aggressive policy of horizontal de-integration which would probably deliver better and faster results (Green and Newbery, 1997; Newbery et al., 2003). In addition, the lack of an EU-wide energy regulator with effective power to monitor and regulate market developments *ex ante*, especially cross-border trade issues, is particularly detrimental to the integration and the well-functioning of European energy markets (Glachant and Lévêque, 2006). While the *ex ante* part of energy regulation shows obvious signs of weakness, the European commission has announced it would use its antitrust power with even more strength in the coming years (Monti, 2003; DG COMP 2007).

Conducting market building through antitrust does not go without uncertainties about the suitability of the policy tool itself and about the ability of the judges to enforce it. Antitrust policy remains constrained by the legal process, and especially judicial review. This also raises questions both about the discretion which a process of market building requires to be conducted efficiently and about the time and cost of dispute resolution through court trial (Newbery, 2005). In addition, antitrust is usually enforced in sectors where competition is more mature and a limited knowledge of competition dynamics may result in significant error costs (Smeers, 2005).

Following a worldwide trend in global antitrust (Van den Bergh, 2002), the on-going modernization of EC antitrust policy aims at implementing a 'more economic' approach based on long-term consumer welfare. It means gradually shifting from a legal 'form-based' analysis of contracts to a more 'effect-based' approach where the real economic effects of competitive behaviors are more important than the drafting of contracts (Ehlerman, 2000; Wesseling, 2000; Verouden, 2003; Bishop and Ridyard, 2002; EAGCP, 2005). The 'more-economic' approach might significantly impact the way EC antitrust laws are enforced, which brings new uncertainties both for the regulators and the regulated firms.

If EC antitrust policy becomes the main energy policy tool to open markets at the EU level, it is worth analyzing the forces which shape its implementation. The case of LTC is particularly interesting as they have become one of the main

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priorities for antitrust enforcement (DG COMP, 2007). A series of cases has already come out and new ones are regularly opened, for instance lately against EDF and Electrabel. A widespread view, both in academia and in the industry, is that the European Commission is taking a dogmatic view on LTC and would simply consider them unacceptable when implemented by dominant companies. This can be understood as DG Competition since the early 2000's has publicly and repeatedly voiced strong concerns over the risks of anti-competitive effects inherent in energy LTC (Albers, 2001; DG COMP, 2007). However, a more economic approach in antitrust could not reject outright LTC in energy and should command a more-balanced approach.

The objective of this paper is two-fold. The first one is to depict the pros and cons of LTC in energy, from the usual IO and NIE perspectives (e.g. Neuhoff and Hirschaussen, 2006), which are the perspectives of individual contracting parties, as well as from a general antitrust point of view. The second one is to analyze the actual behavior of the European Commission *vis-à-vis* these contracts and the methodology it is implementing to analyze foreclosure in the existing context.

The paper will be divided as follows. Section II will present what economics has to say on the current EU antitrust dilemma with LTC in energy and what are its limitations. Section III will depict the two-step methodology that is emerging at the European Commission to analyze the anti-competitive effects of energy LTC. Section IV will then turn to the difficulties which the European Commission has to balance the anti-competitive effects and the potential efficiency gains. It will also analyze the remedies imposed to correct the anti-competitive features of European energy markets and the 'pro-entry' bias that can be depicted. Concluding remarks will follow.

II. THE EU ACTUAL ANTITRUST DILEMMA WITH LTC IN ENERGY: FORECLOSURE VS TRANSACTION COSTS

In essence, antitrust policy is about maximizing long term social welfare, with a general bias in favor of consumer welfare in the EU. This often implies constraining the freedom of some economic agents in the short term to reach a greater social value over several periods of times. It is typically the case with the deregulation of energy markets where incumbents must suffer some harm to facilitate the coming up of truly competitive markets, deemed to increase social welfare (Newbery and Pollitt, 1997; Markiewicz and Wolfram, 2004). The balancing between the efficiency gains of long-term contracting for a few individual market players and the potential negative effects on social welfare are at the heart of the antitrust dilemma with LTC in energy. However, restricting the freedom to contract of some agents must be based on valid economic reasoning and requires being able to conduct some kind of inter-temporal analysis of LTC effects on welfare. We present in this section a basic economic analysis of the pros and cons of LTC for individual market players and for the society as a whole.

A- LTC decrease transaction costs for contracting parties

LTC are often considered an efficient substitute for vertical integration in case merger is prohibited or considered to incur too heavy organizational costs. The main advantage of LTC for individual firms is to hedge price and quantity risks and therefore facilitate investment or operation. In the old monopoly era, vertical integration and long-term contracting were the preferred way to structure business relationships in energy. Reliability and investment were ensured, but at a hidden cost for society (Stern, 2004; Littlechild, 2005). In the new competitive paradigm, large and stable spot markets are to coordinate behaviors and should be liquid enough to enable firms to sink high fixed costs investments based on reliable investment signals. Yet, European spot markets remain under-developed (DG Comp, 2007), demand is inelastic and market structures are highly concentrated, hence firms tend to resort to more durable vertical arrangements. If spot markets are under-developed, future cash flows are uncertain and the uncertainty on the returns will lead risk-averse investors to under-invest in generation capacities (Neuhoff and de Vries, 2004). LTC may mitigate this by providing an insurance device which will also help secure funds with investment banks under project financing structures (Lacy, 2006; Finon and Roques, 2008). From a theoretical point of view, Neuhoff and Hirschaussen (2006) show that market players may have strategic incentives to favor LTC when long-term elasticity of demand is higher than short-term elasticity. However, it is not clear that short term cash management rationale should extend to pure long-term hedging strategies not linked to any new investment in capacity. Indeed, long-term hedging in this case would severely limit profit opportunities (Parsons, 2008).

If bilateral contracting is unavoidable due to the state of spot market development, LTC will help economize on the transaction costs (Williamson, 1975, 1985) linked to the uncertainty described above and the significant asset specific investments of energy markets. LTC help solve the problem of counterparty credibility and thus increase the total surplus to be shared (Klein et al., 1978; Williamson, 1983). The different players face different price and quantity risk depending on their position on the supply chain and the technology used. LTC then enable them to allocate that risk on the party best able to manage it (Wiser et al., 2004; Finon and Roques, 2008). The pricing scheme should thus mirror the risk aversion profiles of the parties and risk premiums will depend not only on the counterparty's characteristics and risk aversions but also on diverse political, regulatory and macroeconomic risks (Glachant and Hallack 2008). Empirical research supports the theory and shows for instance that gas supply contracts linked to an asset specific investment are on average four years longer (Neuman and Hirschaussen, 2006). Similar relationships between transaction costs and the length of contracts had already been demonstrated by Joskow (1985, 1987a, 1987b) in the case of coal contracts. In the opposite direction, as soon as asset specificity decreases, efficiency gains attached to LTC decrease as well (Parsons, 1989; Doane and Spulber, 1994). This probably explains why where liberalization has been implemented contract length naturally tend to decrease (Neuman and Hirschaussen, 2005; Stern, 1998).

It is important to note that LTC are not monolithic and

display different results in terms of surplus and risk management depending on contract characteristics and the technology involved (Wiser et al., 2004). The inclusion of tacit renewal clauses for instance decreases the transaction costs of renegotiation (EDF-IDEI Report, 2006). Reduction clauses allow the buyer to reduce off-take in case the supplier starts reselling in its commercial area, which protects the buyer's market and its sunk investments. Volume clauses may include rebate mechanisms which may reduce the price for the buyer. Exclusivity clauses also enable the buyer to decrease transaction costs. Indeed, Crocker and Masten (1988) and Masten and Crocker (1985) show that the take-or-pay clauses provide enough flexibility to avoid breach and thus expensive renegotiation of contracts. The LTC will thus be the most efficient governance structure for contracting parties if it ensures flexibility for renegotiation and solves the counterparty credibility problem (Borison and Hamm, 2005). In return, LTC will not be efficient for individual market players in any case, especially if the economic agent has a certain monopoly or monopsony power and could manipulate spot prices.

B- Efficiency for individual market players rejoins efficiency for the society in some cases

As a result, some positive effects of energy LTC on social welfare may clearly be depicted. In the short term, LTC tend to limit double marginalization (Onofri, 2005) and may prevent abuse of dominance on spot markets, although this is a highly debated argument. The strategic behavior of firms on spot and forward markets has been the main stream of research in the economics of energy LTC since the seminal contribution of Allaz and Vila (1993). The policy recommendations are not unanimous though. Due to the high concentration levels of supply and demand and the low demand elasticity, at least in the short term, abuses of market power on spot markets through withholding of capacities are likely. LTC may limit the incentives of dominant operators to abuse their market power on the spot as increases in prices would only be profitable on the un-contracted part of their supplies, hence LTC tend to increase traded volumes, especially when supplier concentration is low (Green 1999; Bushnell, 2007; Willem and de Corte, 2008). This is however true only if competition is modeled à la Cournot, especially if coupled with other measures to increase demand elasticity (Borenstein, 2002). If competition is modeled à la Bertrand, results go in the opposite direction (Mahenc and Salanié, 2004). From a theoretical point of view, Bonasina et al. (2007) and Smeers (2005) show that the set of assumptions used in the diverse models are too uncertain to firmly ground policy actions. From a practical point of view, it will indeed be difficult for antitrust authorities to differentiate between the exercise of market power and legitimate scarcity rents (Fraser, 2003). It is also likely that the standard of proof used in courts would in any way be too high to use that argument.

Positive effects of LTC on social welfare are much more obvious in the longer term. First, LTC facilitate entry and thus contribute to market building if spot prices are volatile, when they are sufficiently long and when they can cover sufficiently

high volumes (Green and Newbery, 1993, Green and Newbery; 1997, Newbery, 1998). The second positive effect is not only that it facilitates investment and thus contribute to long-term generation adequacy, it is also that it may contribute to fuel mix diversity by facilitating investments in base load technologies such as nuclear or coal (Finon and Perez, 2008). Indeed, the greater the fixed costs are, the greater are price and quantity risks (Roques et al., 2005; Finon and Roques, 2008). Whereas large, diversified and vertically-integrated incumbents can implement portfolio strategies and obtain a relatively greater value from base-load technologies (Roques et al., 2006; Roques et al., 2007), unstable spot markets constitute an especially high barrier to entry for new players in these technologies. Roques (2007) indeed shows that without LTC, CCGT is the preferred technology for new entrants as it is self-hedged given the correlation between electricity and gas prices observed in most markets. This makes CCGT particularly attractive to new entrants, which is confirmed by Watson (2004). LTC might thus enable new entrants to invest directly in high-fixed cost technologies. This would also reduce their incentives to swap peak against base load capacities owned by incumbents, rather than investing, in order to reach a more balanced portfolio of technologies. A recent example of this was the agreement between EDF and POWEO signed in January 2007. POWEO indeed gained access to EDF nuclear capacities from 2007 to 2021 and will give in return a future access to its CCGT currently in the construction phase, for the same capacity and the same period (160 MW per year over 15 years).

C-But LTC can trap European energy markets in a vicious circle reinforcing collective dominance of incumbents

LTC have both positive and negative effects from the point of view of long-term social welfare. The main problem with LTC is the risk of foreclosure of more efficient players. This problem is even stronger in a context of market building and is the main argument of the European Commission and national competition authorities to attack these contracts (DG COMP, 2007). If a significant part of demand is tied in the long run, a lack of retail outlets may lead to significant output foreclosure at the production level and tied consumers will not be able to subsequently benefit from future and potentially more profitable offers by new entrants. LTC may thus constitute a barrier to entry and have a negative effect on third parties. Conversely, if the market structure at the producer level is very concentrated, input foreclosure may occur and prevent entry in retail. For the Chicago School, an inefficient attempt to monopolize the market is impossible as it would require the acceptance of the buyer to incur the loss of not dealing with a more efficient entrant (Bork, 1978; Posner, 1976). This holds only under perfect information and if all possible parties are able to negotiate at the contracting stage. Under perfect information about the likelihood of entry of a more efficient supplier, economic theory shows that the current supplier is able to propose a contract with both a price and a penalty for default clause strictly advantageous for him but neutral or positive for the buyer. Rent would thus jointly

be extracted by the incumbent and the buyer from the potential entrant but this would not impact social welfare. Therefore, under complete information, LTC could not be motivated by anti-competitive motives and would never be detrimental to welfare. An alternative explanation introduces buyer-to-buyer externalities while keeping the rationality hypothesis of the Chicago school. A buyer might agree to sign an inefficient LTC in order to reduce the size of a potential entrant's market, thereby reducing the probability of entry. As a result, other buyers will have to accept a higher price in the next period (Aghion and Bolton, 1987), which will give a competitive hedge to the first buyer. While it is rational to sign a LTC for a buyer in that case, buyer-to-buyer externalities render it negative for social welfare. Rasmussen et al. (1991) and Segal and Whinston (2000) introduce scale economies in production and multiple buyers to show that if an incumbent is able to secure a profit superior to the amount required to compensate the buyer from being tied, he will use LTC to fully foreclose the market. In case of competition between retailers, Fumagalli and Motta (2006) refined the analyses and showed that the risk of exclusion increases when the intensity of downstream competition increases. Simpson and Wickelgren (2007) however argue that the opposite is true when buyers are allowed to breach exclusive contracts and pay expectation damages.

LTC also indirectly have exclusionary effects by drying out spot markets. Spot markets deliver better results than bilateral contracting only if sufficiently liquid. The absence of competitive spot markets is detrimental to social welfare in several ways. A competitive spot market allows more transparency than bilateral contracting on the evolution of supply and demand and current production costs of the firms in place. The possibility to contract efficiently on the spot also limits the opportunity of dominant agents to abuse their market power when they contract bilaterally with smaller players. It mitigates as well the risk that in the long term LTC will lead to tacit collusion on spot markets by stabilizing the market shares of an oligopoly of collectively dominant suppliers (DG Comp, 2007; Neuman and Hirschausen, 2006; Le Coq, 2004, Liski and Montero, 2004). However, Green and Le Coq (2006) suggest that the longer LTC are, the lesser is the risk that these LTC will lead to tacit collusion. The lack of a liquid spot market will not facilitate entry in retail and trading, and will thus foster volatility which encourages market players towards vertical re-integration or long-term contracting. Last, we note that similar exclusionary effects may also arise both from the fidelity rebates granted by dominant firms and from unclear termination rights, which provokes foreclosure effects and higher switching costs, thereby contradicting the current market building efforts of the EU.

Some contract clauses other than duration and exclusivity might also result in anti-competitive effects or express an attempt at monopolizing the market. Destination clauses and use restrictions hamper the integration of a single European market for energy, facilitate collusion between sellers and decrease competition intensity in the downstream market (Neuhoff and Hirschausen, 2006). Reduction clauses, the so-called 'English clauses', clauses of 'right of first refusal' or

'most favored customer' all have similar market partitioning effects. Clauses of tacit renewal which typically decrease transaction costs for individual contracting parties may easily have lock-in and thus foreclosure effects when the producer is overwhelmingly dominant.

At last, we note that, although not linked directly to the duration or exclusivity clauses, LTC might also entail severe price restraints such as excessive pricing or price discrimination. The price negotiated in a LTC depends on contracting parties' information about market conditions as well as on their respective bargaining power. As a result, an incumbent might well abuse the position of dependency of a new entrant or unfairly discriminate in favor of another incumbent. For instance, in case of regulated tariff in the downstream market associated with an overwhelmingly dominant producer upstream, a significant price squeeze may lead to severe barrier to entry. To the opposite, price discount linked to a long duration or a significant volume may distort competition in the downstream market if this rebate gives a competitive hedge to the downstream dominant firm.

D- Conclusion: the EU actual antitrust dilemma with LTC in energy - quo vadis European Commission?

This section has showed that the antitrust dilemma with LTC in energy is far from entirely solved by economic theory. LTC effects on welfare depend on a quantity of variables such as the different risks involved, the evolution of supply and demand, the storability of the product, market structure and primarily who is signing the contract. Economics does not provide any integrated model to weigh anti-competitive effects with potential efficiency gains over several periods of time but clearly shows the different elements to be taken into account to conduct the balancing exercise. The above analysis seems to indicate that building markets to increase welfare in deregulated energy markets might require an asymmetric application of antitrust policy, at least in the short term. Indeed, if a new entry may clearly depend on the signing of a LTC, the claim that potential efficiency gains counter-balance anti-competitive effects is much less clear in the case of super-dominant incumbents which have already secured a wide customer base, even for investments in very high fixed-costs technologies such as nuclear.

A 'legalistic' analysis of LTC, especially if a pro-entry bias is favored, could lead to an analysis primarily based on the form of contracts and therefore to a general ban on LTC in energy. A more economic approach in the opposite could not rule out the fact that even dominant firms benefit from using LTC and that substantial foreclosure effects may not occur in every case. However, fully analyzing the pros and cons of all LTC would result in significant enforcement costs. The quality and efficiency of antitrust analysis largely depends on the level of information required to limit 'type I' and 'type II' errors in decision making. As a result, a constant preoccupation of antitrust policy should be to narrow down the number of cases where a full competition analysis is required to reach a decision. From that angle, the 'legalistic' approach would have the obvious advantage to clarify rules,

both for enforcers and market players, and hence to facilitate self-enforcement through deterrence.

It is widely believed that the European Commission is taking a dogmatic approach on LTC and would simply consider them unacceptable when implemented by dominant companies. This can be understood as DG Competition since the early 2000's has publicly and repeatedly voiced strong concerns over the risks of anti-competitive effects inherent in energy LTC (Albers, 2001; DG COMP, 2007) without clearly acknowledging their positive aspects. However, we will argue in the next two sections that if some uncertainty remains, a certain methodology of analysis has emerged at the European Commission and that this methodology takes into account most of the modern competition economics of LTC.

III. A TWO-STEP METHODOLOGY TO ANALYZE THE ANTI-COMPETITIVE EFFECTS OF LTC IN DEREGULATED ENERGY MARKETS IS EMERGING

Prior to liberalization, LTC were not a priority of the European Commission which rather focused on removing legal monopolies over imports and exports. A few decisions in the early to mid 1990's nonetheless concerned long-term power purchase agreements between independent power producers and the national incumbents. They mainly aimed at limiting their durations so that these LTC would not jeopardize the forthcoming opening of markets. 15 years became the canonical duration accepted by competition authorities and no structured analysis of foreclosure effects was conducted. Since then, no clear methodology to analyze foreclosure effects in the context of deregulated energy markets has been clearly communicated by competition authorities and this is why legal uncertainty is so strong currently in the market place (Hauteclouque, 2008). However, since the early 2000's and especially for the last two years, a series of decisions have been taken concerning the portfolio of LTC of several incumbents (Repsol, E.ON Ruhrgas, RWE and most importantly Distrigaz) and new proceedings are regularly opened (EDF, Electrabel, GDF). We argue that a two-step methodology to analyze foreclosure of access to customers in the new liberalized context is emerging from recent decisions and that this methodology is clearly inspired by sound economic principles.

A- Step one: market share thresholds and black-listed contract clauses – per se prohibitions

Antitrust enforcement is constrained by the rules contained in the EC Treaty as firms may appeal against the decisions of the European Commission before Community Courts. Art 81 EC which deals with anti-competitive practices and Art 82 EC which tackles abuses of dominance, together with relevant guidelines, notices and regulation, do not *a priori* allow or ban LTC. They provide to the opposite a framework of analysis based on market share thresholds which define which situations must be fully investigated. This system is designed to provide predictability to the firms and allow competition authorities to focus their enforcement resources to the most

serious infringements. It is thus based on the fundamental insight that vertical restrictions of competition may be harmful to competition only when horizontal competition is distorted. This means that the European Commission will act only when the LTC is implemented by a company with market power, market shares being used to approximate the level of dominance. This is an imperfect proxy for market power in many cases in energy but as concerns customer foreclosure, market shares seem a good and easy tool to use.

In practice, LTC between small and medium-sized companies are normally not considered by the European Commission as being capable of affecting appreciably trade between Member States, except when they engage in cross-border trade. In fact, as long as the market shares of each contracting parties do not exceed 15%, LTC do not fall under Commission jurisdictions. Beyond 15% market shares, LTC are presumed to be legal so long as the market share threshold of 30% is not exceeded and duration is not indefinite or over 5 years. In case of collective dominance by several suppliers below the 30% threshold, the European Commission or a national competition authority retains the right to conduct a full competition analysis. LTC for companies with larger market shares will require a full competition analysis in all cases.

To the system of market share thresholds has been added a list of black listed clauses, called 'hard-core' restraints. These contract clauses are thought to contravene the fundamental Treaty objective of market integration and hence will almost never be accepted, which amounts to a quasi *per se* prohibition. Black listed clauses relevant for energy are essentially market partitioning clauses, use restrictions and contractual provisions having similar effects. Forbidding market partitioning clauses and use restrictions makes sense for a homogenous product and in an industry that has traditionally been organized along national borders. During the course of recent decisions in energy, the European Commission has also made clear that clauses other than duration and exclusivity leading to significant switching costs would almost never be accepted when implemented by dominant firms. Among them, unclear termination rights, fidelity rebates and tacit renewal clauses have been considered illegal in several decisions. In these instances, the Commission has clearly favored the fight against foreclosure over the saving of transaction costs for individual contracting parties, even to the detriment of the non-dominant firms contracting with a dominant incumbent.

The EU law framework to analyze anti-competitive effects of LTC is thus primarily based on market share thresholds and on a series of black listed clauses. Even if these thresholds are set somewhat arbitrarily and have not been designed specifically for energy markets, they nevertheless contribute to ensure more predictability in enforcement. In addition, they rely on the fact that a firm with low market shares will not be able to distort competition sufficiently enough to justify a full competition analysis, which is justified from an economic point of view. As concerns the black listed clauses, it is obvious that the market integration objective played a big part in their definition. They however fit well in energy where the low level of market integration remains hard to overcome.

Over 30% and provided that certain clauses are not included in the contract, competition authorities see a 'grey' area where the assessment of anti-competitive effects becomes more complicated and where, in theory, a multiplicity of elements should be taken into account. We will show that the emerging methodology of the European Commission evidences awareness of a lot of the modern economics of foreclosure.

B- Step 2: analysis of anti-competitive effects in 'grey' cases – the relevant facts

In case the LTC does not include any hard-core restraints and the market shares of at least one of the contracting parties exceed the 30% threshold, the European Commission will conduct a full competition analysis of the anti-competitive effects of the agreement to decide if it infringes EC antitrust law. This *de facto* limits antitrust enforcement in energy to the cases involving dominant incumbents. We will see in Section III that this is only if there is a strong presumption that the LTC will result in substantial anti-competitive effects that the analysis of potential efficiency gains attached to the LTC will be carried out and that a balancing exercise will be conducted. Long-term contracting by dominant firms is therefore far from being illegal *per se*.

Competition authorities will consider a lot of different elements to analyze anti-competitive effects. Some are purely intrinsic to the vertical relationship as the duration or the volume specified while others help to analyze the market context, such as the level of vertical integration in the industry. This is reasonable in so far as the potential anti-competitive effects of a LTC, or a portfolio of LTC, cannot be understood without taking into account the specificities of the market context. We will thus first analyze how the European Commission assesses market characteristics before going on to its analyses of the contract itself.

B-1 Analysis of market characteristics

Market characteristics are usually what competition authorities analyze first. Economic theory is poor on insights regarding the patterns of entry in energy markets and the specific market features which favor it. In the recent line of decisions, elements taken into account included the maturity of demand, the level of vertical integration in the market, the real opportunity to set up a new resale network and the existence of buyer power. The latter is important as contracting parties frequently have diverging interests and thus incentives to contain each other's market power. In general, the European Commission considered that the presence of numerous buyers *de facto* limits the possibilities of abuse of a dominant position by the supplier. When assessing market characteristics, the European Commission also looks at potential entry in supply and demand, and its potential impact on future competition. This largely depended on the existence of potential competitors, usually foreign incumbents present in neighboring markets. A potential competitor is usually a firm able to undertake the required investments to enter the market within one year following a small but significant increase in prices as well as having a

certain brand image and financial strength. For entry in electricity, ready available gas capacities have been considered an important factor.

The most important element will be the assessment of the cumulative effect of all the LTC signed by the different producers on market foreclosure. Indeed, LTC can foreclose markets to new entrants only to the extent that a substantial part of market demand is tied for the long term. The doctrine of cumulative effect had been devised in a famous series of cases in the beer and ice-cream sectors and had been one of the cornerstones of the 'more-economic' approach in EC antitrust policy. As a general rule, the European Commission considers that a significant cumulative foreclosure effect is unlikely to arise if the total market demand tied in the long term does not exceed 30% of global demand. In the case of a 'super-dominant' incumbent like in the *Distrigaz* case, the European Commission considered that no competition concerns would arise if its portfolio of LTC would cover less than 20% of the market. In *E.ON Ruhrgas*, the Bundeskartellamt estimated that the firm contributed significantly to cumulative foreclosure with 75% market shares in its supply area, within a national market where 80% of total demand was supplied in the long term. This demonstrates that when a firm is largely dominant, the anti-competitive effects of its demand tied in the long term arise sooner. In the case of a group of leading suppliers, the European Commission will look similarly at the cumulative effects of their LTC but there will be no need to prove that they lead to tacit collusion to show that significant foreclosure effects occur (Kjølbye, 2007).

B-2 Analysis of contract characteristics

After having analyzed market conditions and their likely evolutions, the focus will be on the characteristics of both the LTC itself and the contracting parties. Most prominently, the European Commission will conduct a combined analysis of duration, exclusivity and whether buyers who represent alone a substantial part of total market demand are tied for the long term with the dominant supplier, or the collectively dominant suppliers.

The European Commission will first look at the percentage of the consumer demand tied under the LTC, namely the exclusivity clause, as it is one of the main sources of foreclosure effect. Indeed, if a customer must meet all or a big part of its needs with a particular supplier for a long period of time, he does not constitute any longer an available outlet for a potential entrant. In *Gas Natural/Endesa* in 2000, the Commission reduced the size of the contract from nearly 100% to 75% of Endesa global purchases as Endesa was one of the leading electricity producers in Spain and thus could motivate entry in gas supply in its own right. More generally, the European Commission is looking here at the degree of economic dependency of the buyer *vis-à-vis* the dominant supplier. The share of the customer's demand tied is in the European Commission's view the best way to demonstrate dependency and it repeatedly used that proxy. Most importantly, the analysis of the European Commission is based on quantities actually received and not on quantities

contracted. Indeed, take-or-pay or flexibility clauses are one of the main reasons why LTC dry out spot markets. Quantities effectively used are generally not the same than quantities previously forecasted. Without flexibility mechanisms, buyers would be obliged to trade their surplus or source their missing quantities from spot markets. LTC could therefore contribute to the deepening of these markets while providing a fair level of supply security (Longva, 2008). However, flexibility mechanisms are not forbidden *per se* and the European Commission conducts its analysis on a case-by-case basis.

European competition authorities recognize when they analyze the share of the customer's demand tied that transaction costs may become too high when negotiating for a small quantity and that it may become uneconomic for an alternative supplier to provide less than a certain amount. Recent decisions seem to indicate that it is considered that 20% of a customer demand is the threshold for having incentives to enter into a relationship with a second supplier (*E.ON Ruhrgas* and *RWE*). Competition authorities are thus more reluctant to accept LTC accounting for more than 80% of a customer demand. Some commentators close to the European Commission think that foreclosure effects could be found for contracts amounting as low as 50% of a customer demand in case these contract terms are widely spread in the market (Schnichels and Nyssens, 2007).

The share of the customer's demand tied has to be analyzed along with the duration of the contract. Even if 100% of a customer demand is tied to a particular supplier, foreclosure will not occur if this customer can return to the market on a regular basis. As a general rule, the European Commission is very suspicious of contracts longer than 5 years and considers that efficiencies generally do not offset foreclosure effects beyond that limit. We also note that the Commission considers contracts with tacit renewal clauses or no last delivery date as contracts of indefinite duration (*E.ON Ruhrgas*). Recent decisions show that the duration of contracts accepted by the European Commission will mainly depend on the competition position of the counterparty. If the counterparty is an established reseller, accepted duration will probably not exceed two years as in *Distrigaz*. The Bundeskartellamt in *E.ON Ruhrgas* restricted duration to four years for contracts with resellers who have more than 50% of their demand tied under the contract, but only two years above 80%. European competition authorities will thus play with the two factors. Interestingly, where requirements are satisfied by several suppliers, the Bundeskartellamt specified that contracts should distribute the risk of demand fluctuations among suppliers according to the actual supply share provided by each of them so as not to disadvantage the second supplier. In *Repsol*, 5 years duration was accepted for exclusive contracts with established resellers but the market shares of the dominant firm only reached 30 to 50%, which shows that the European Commission adjusts duration according to the level of market dominance of the supplier. For a new entrant in retail, duration of 5 years is most likely to be accepted. One also notices a more lenient approach of the European Commission towards fuel supply contracts than to electricity producer/reseller contracts. This shows that even dominant firms need and can claim for some degree of long term security in fuel supply.

IV. BALANCING ANTI-COMPETITIVE EFFECTS WITH EFFICIENCY GAINS AND IMPOSING REMEDIES: THE 'MORE-ECONOMIC' APPROACH IN EC ANTITRUST POLICY AND THE 'PRO-ENTRY' STRATEGY OF THE EUROPEAN COMMISSION IN ENERGY

Once the European Commission has considered that a LTC, or a portfolio of LTC, is likely to create significant anti-competitive effects, it will analyze the potential efficiency gains and proceeds to a balancing exercise. In case efficiency gains do not seem to clearly offset anti-competitive effects, LTC might still be accepted if satisfactory remedies can be imposed.

A- LTC, efficiency gains and the practice of the balancing exercise

The balancing exercise follows a methodology based on four criteria directly derived from the wording of the EC Treaty. In theory, for LTC with substantial anti-competitive effects to be cleared by competition authorities, they should (i) substantially improve economic efficiency, (ii) give a fair share of benefits to final consumers, (iii) be indispensable or at least proportional to the achievement of the efficiency gains and (iv) not afford contracting parties the possibility of eliminating competition in respect of a substantial part of the products in question. Objective factors out of the control of the company such as public service obligations may also be taken into account. In practice, we note that it is often difficult to trace back elements of competition authorities' decisions precisely to the four criteria.

The first criterion indicates that the LTC must create significant efficiency gains to be accepted. Recent decisions are however less clear on how to analyze efficiency gains than on how to assess anti-competitive effects. The outcome of the balancing will thus be even harder to predict. The two main efficiency gains recognized by the European Commission have been investment and entry. In *Synergen* for instance, the Commission accepted both a 15 years gas supply contract with Statoil for 100% of the needs of a CCGT plant and a 15 years power purchase agreement for 50% of its output with the electricity incumbent ESB. It thus recognized the need of secure output levels and long-term upstream fuel commitments to facilitate investments and project financing. However, the mere objective of securing loans might not be sufficient to have a LTC accepted as the Commission in other sectors did not always consider it indispensable. In case the loan comes from a dominant supplier, it is likely to be considered as an efficiency gain only if it cannot be obtained on the same terms with commercial or investment banks. It is also noticeable that the Commission has once acknowledged that even dominant firms could claim for a certain level of security in fuel supply (*Gas Natural/Endesa*). The second criterion does not seem to have led to very substantial developments and in general was analyzed along with the first criterion on efficiency gains. As a general rule, the Commission considered that LTC helping investment and entry contributed to the success of the liberalization process, which was in itself thought to be good for final consumers.

The third (proportionality) and fourth (exclusion) criteria are obviously very difficult to implement and this is where the discretion as well as the difficulties of antitrust authorities really lie. European competition authorities are still struggling with them today. For instance, an open question concerns the duration that an incumbent electricity producer really needs to sink a very high fixed-cost investment (criterion 3) and how to make sure that this duration will not result in excessive exclusionary effects (criterion 4). A first indication was however given by the European Commission in the *Exeltium* case in September 2008. Exeltium was a consortium of energy intensive users to whom EDF was to supply base load electricity over more than 20 years. Alleged efficiency gains mainly included security of fuel supply and hedging for the buyers. The European Commission finally cleared this contract, after almost three years of analysis, provided that resale restrictions would be cancelled and an opt-out clause would be introduced to mitigate anti-competitive effects. In addition, the European Commission explicitly stated that the Exeltium agreement would be included in the analysis of the cumulative foreclosure effect of the contract portfolio of EDF currently being conducted.

Interestingly, one of the main advantage attached to LTC recently discussed in the economic literature, which is the potential mitigation effect of LTC on spot market abuses, has never been used by the European Commission. This probably reflects the fact that such economic analysis based on oligopoly modeling would not reach the legal standard of proof required before the court.

B- Market building through antitrust remedies: the new treatment of incumbents

In case efficiency gains do not seem to clearly offset anti-competitive effects during the balancing exercise, LTC might still be accepted if satisfactory remedies can be imposed.

A first group of remedies has consisted in modifying the drafting of contracts, for instance by deleting certain clauses such as use restrictions or limiting duration. In this case, the whole agreement is not cancelled and it belongs to the parties to decide whether the contract is still valid. Other more behavioral remedies have been imposed such as forbidding any vertical mergers or acquisitions to a dominant company for a certain number of years (*Repsol*). These are classical remedies in EC antitrust policy and are not specific to the energy sector. One notes here that if long-term generation adequacy is clearly a core policy goal of the European Commission, the vague concept of 'security of supply' is itself approached with more and more skepticism in antitrust cases. Today, even long-term gas import contracts are not sure to be accepted on the basis of a 'security of supply' argument.

The second group of remedies has been specifically devised for the energy sector and coincided with the decision of the European Commission to use its power against abuses of dominance (Art 82 EC) to attack directly the portfolio of LTC of the incumbents. This was thought to be the only way to bring about rapidly substantial improvements in the competitive structure. The European Commission recognized that some of these LTC created real efficiency gains (criterion

1) but that the criterion on exclusion and proportionality could only be fulfilled if foreclosure effects were severely mitigated. This led the Commission to impose remedies better able to accommodate market players' needs while limiting foreclosure.

The *Distrigaz* decision constitutes according to the European Commission the landmark case for future antitrust enforcement on LTC in energy. The European Commission opened a proceeding against the Belgian electricity incumbent for possible breaches of the EC Treaty rules on abuse of a dominant position due to their long-term contracts with industrial customers. The European Commission started by excluding of the analysis of cumulative foreclosure effects all the LTC linked to a new investment in gas-fired power plants, in line with its analysis of efficiency gains. A strict limitation of 5 years was then imposed on remaining contracts to avoid that customers who would be particularly likely to switch suppliers be tied for a very long period of time and unilateral termination rights were granted to buyers with contracts longer than 5 years. The innovation lied in the flexibility parameters granted to the dominant firm. *Distrigaz* was allowed to adjust its portfolio of contracts to its own needs as long as it complied with a duration of maximum 5 years and if 70% of its customers come back to the market every year. As a result, *Distrigaz* could indifferently have 37.5% of customers supplied under 5 year contracts and 62.5% supplied under one year contracts or 40% supplied under 4 year contracts and 60% supplied under one year contracts. These commitments were due to last for a minimum of four years and until *Distrigaz*' market shares decrease below 40% (or another supplier reaches the level of *Distrigaz* market shares minus 20%).

C- Conclusion: European LTC in competition policy - the European Commission is doing good, thank you!

The analysis of the recent series of decisions shows that the European Commission is using an economic approach to analyze foreclosure effects of LTC and imposing remedies in energy. Its combined analysis of duration, exclusivity and the pattern of consumption are particularly interesting. Even if the two-step methodology has not been devised for the specificities of newly deregulated energy markets, we have to conclude that this methodology balance favorably between the need for predictability and the need for a full competition analysis in complicated cases. True, the hierarchy among elements to be taken into account during the balancing exercise lacks of clarity and hence predictability. In addition, it is obvious that the analytical framework used and the remedies imposed are designed so as to be accepted by Community Courts in case of appeal. We can nonetheless already have a first picture of the emerging doctrine of European competition authorities.

V. CONCLUSION

The case of LTC is highly topical. This paper has shown that the European Commission is much less dogmatic than is

usually thought. Its analysis displays real efforts to both include recent insights of the competition analysis of foreclosure and limit regulation costs through a step-based approach. Even dominant incumbents are granted the right to sign LTC and the remedies imposed here and there have been innovative. However, the European Commission still takes a 'legalistic' approach in so far as its practice closely complies with what could be acceptable before the European Courts of Justice. In addition this new approach has not been devised for the specific context of energy market building and there is no reason to believe that the thresholds successfully used for beer and ice-cream are inevitably smart for energy. The market building efforts of the Commission under its antitrust powers thus appear to be constrained by the procedural aspects of the legal process.

In addition, by building markets through antitrust, the Commission necessarily focuses on market structure rather than on market design. This is a risky choice as our knowledge of competition dynamics in these sectors is too limited to propose very robust and efficient remedies. We must note that building market through antitrust is far from being limited to the *ex post* tool kit. Antitrust has become a constantly on-going process of 'trial-and-error' which clarifies rules over time. Each rule being clarified increases the credibility of self-enforcing competitive behaviors in the market. Today we think that we are up to a point where the lack of predictability could be more detrimental to market building and social welfare than the lack of economic analysis. As a result, we would applaud the publication of non-binding guidelines on acceptable contract forms and reasonable nexus of contracts as a positive step forward in the building of the EU internal market.

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