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Selling pigs under contract

Experiences abroad and opportunities for France

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Agricultural marketing contracts reflect a commitment to give and receive goods or services, specifying modes of delivery and payment. They allow partners to protect themselves from market, supply or outlet risks, but they remain exposed to the risk that one of them does not respect his commitment. Through a literature review and interviews with experts, existing contracts in Europe, United States and Brazil were identified and characterized. A critical analysis of their interest for French pig production was then carried out.
In Europe, pork sales are essentially based on the spot price, with little to no contracts. In England and Italy, however, a large proportion of animals (70 to 80%) are sold through medium to long term contracts. In the United States, forward contracts are common (61% of the pigs slaughtered). Its contents are decided on the day the contract is signed but it will only be executed in the future. They can be based on fixed prices, on official quotations, that can be framed or indexed to a cost estimate.
Due to its characteristics, French pig market isn't based on fixed price contracts. However, confronted to higher inter-annual price evolutions, long term contracts could be considered.

Fixer le prix du porc par contrat : Expériences à l'étranger et enseignements pour la France

Les contrats de commercialisation traduisent l'engagement de partenaires à fournir et à recevoir un bien ou un service, précisant les modes de livraison et de paiement. Ils leur permettent de se couvrir contre un risque de variation importante du prix, d'approvisionnement ou débouché, mais les exposent au risque qu'une des parties au contrat ne respecte pas ses engagements. Au travers d'une étude bibliographique et d'entretiens, les contrats de commercialisation des porcs existant en Europe, aux Etats-Unis et au Brésil ont été caractérisés. Leur intérêt pour la production porcine française a été ensuite analysé.
En Europe, la commercialisation des porcs se fait essentiellement sur la base de prix négociés sur l'instant (spot). En Angleterre et en Italie cependant, 70 à 80% des animaux sont vendus via des contrats de deux à cinq ans. Aux Etats-Unis, les contrats à livraison différée (exécution ultérieure de termes décidés à la signature du contrat) concernent 61% des porcs abattus. Ils peuvent être basés sur des prix fixes, sur des cotations officielles pouvant être encadrées par des seuils ou indexées sur un coût de revient estimé.
Du fait de ses caractéristiques, le marché du porc en France n'utilise actuellement pas de contrats fixant le prix à l'avance. Mais face à des variations interannuelles de prix plus importantes, la question se pose de contrats de longue durée.

Keywords: market price pork sales marketing contracts
Mots clés : marché prix commercialisation contractualisation porcs

Introduction

Agricultural markets are now experiencing price variations of high amplitude. A frequently advocated remedy is the contract agreement. **But what does this instrument imply for those involved? What powers does it wield over the market?**

The French law for the modernisation of agriculture and fisheries (LMAP) of July 2010 prompts new thinking on introducing contracts in all sectors of agricultural production. Contracts are already being used in the marketing of cereals, and are under discussion in the dairy sector. In France, pig farmers already use different forms of «contracts», with a spot price as payment basis, determined by direct confrontation bewteen supply and demand.

The aim of this study was first to **review and characterise the different methods used for the marketing of pigs, other than by mutual agreement**, in the world's main pork producing countries: diversity, relative importance, objectives, modalities, etc. Secondly, a critical analysis was made of the utility of contracts for the marketing of French pig production.

Materials and methods

Method

This study was conducted for the main pig-producing countries, **in Europe and in the world**. The marketing methods by contract were reviewed for Europe in Germany, Spain, Poland, the Netherlands, the United Kingdom and Italy, and also in the United States and Brazil.
First, a thorough **literature review** was carried out, in particular for the United States. In the last two decades, the marketing of pigs in the US has undergone profound changes that have been largely documented.
This research was extended by **interviews** with experts in the main countries studied, both institutional (USDA, Chamber of Agriculture of Lower Saxony, etc.) and professional (BPEX, Boerenbond, PVE, Animex, Anas, etc.), and in research (WUR, University of Missouri, etc.).

In France, exchanges between technical institutes (Livestock Farming Institute, Itavi) were used to carry out a description of the current situation in different animal sectors. This broad overview offered a perspective of the pig production compared to other livestock sectors. Interviews with producer organisations and Coop de France enabled us to characterised practices. The actors implementing the first deferred delivery contracts in France (Syproporcs, MPB) were also met to discover the objectives and executive modalities of these contracts and their recent evolution.

Theoretical reminder

In the farming environment there are three main ways to market goods, products or services. **These are open market trade, contracts and vertical integration**. The prices underlying these transactions may be specified either immediately (spot price), or at a set time, determined with a set procedure.
A contract attests a commitment to supply and receive goods or services, stating modes of payments and delivery.
A contract may be made on the futures market. A **«futures contract»** is a highly standardised contract whereby a person promises to sell or buy a specified quantity of a precisely defined product at a set future date, at a price fixed in advance. These highly standardised instruments are traded on organised markets and are only rarely materialised by an actual delivery. Their purpose is to gain protection against an unfavourable market evolution by taking a position, before the contract expires, against the one planned for the actual delivery of the products.
Theoretically, the two markets evolve in the same direction, and what is lost on one is gained on the other.
Vertical integration (participation of a company in more than one successive production or distribution step – Mac-Donald and Korb, 2011) also makes use of contracts. It enables a company to reduce its costs and exercise more control over processes and prices (Bouamra-Mechemache, 2012).
Lastly, in a **deferred delivery contract (DDC)** the terms are fixed on the day it is signed, but will be executed at a later date. It is similar to a futures contract, except that its primary purpose is to obtain a delivery. Accordingly, as there are no standardised documents, clauses proper to the contracting parties are provided to ensure delivery and resolve any conflicts that may arise from its execution.
In farming there are two types of DDC. **Production contracts** specify services provided by the farmer to the company and the corresponding payments made. The company alone takes the market risk (i.e. unfavourable trends in prices). **Marketing contracts** concern a product to be traded, and state at least a price or a price-fixing mechanism, a quantity to be delivered and a date and place of delivery. When well negotiated, they enable the contracting parties to forestall market risk and/or guarantee a more stable income. They also offer the seller a safe sale and the buyer guaranteed procurement. However, these contracts are vulne-

rable to default by the other party (e.g. no delivery or payment), faulty delivery (e.g. wrong date or wrong quantity) and defective quality (noncompliant with the contract).

Example of other livestock sectors

Dairy sector: managing the post-quota period

In 1984, milk quotas were introduced, with the aim of limiting and stabilising the production of cow's milk, while at the same time controlling EU budget spending.
The European Union has decided to end milk quotas as from 1st April 2015, with a gradual transfer of the supply management to the processors. However, the milk price crisis of 2009 led to the creation and recognition of Producer Organisations (POs) in order to negotiate future contractual relations.

There are currently four major scenarios for milk collection:
- **Moderate control of deliveries** based on a system close to that of milk quotas. The price is based on indicators from the National Trade Centre for the Dairy Economy (CNIEL),
- **Tight control of deliveries**, with the aim of creating added value and focusing the collection on areas with needs,
- **Management by cooperatives,**
- **The proposition made by Danone**, with a monthly reference for milk and one for amounts outside the quota.

Beef cattle sector: moderating price variation

In 2013, the beef cattle professionals (Interbev) proposed a system of contract agreement between industry and stock-breeders that was approved by the whole sector. The agreement would apply to stockbreeders annually producing at least 20 young cattle, heifers or steers, on a voluntary basis. It would take the form of set clauses in sales contracts for the above livestock. The clauses would concern the product to be delivered, the modalities of collection or delivery, of price setting as well as payment conditions, revision and termination of the contract. Its declared objective is to regulate the gap between the prices set in contracts and those of the market» (SNIV 2013). The aim was also to set in motion a National Trade Security Fund, wanted by the sector as a whole, but which had proved difficult to finance.

Lamb meat sector: Organisation of procurement

The lamb meat sector has set up an incentive scheme for quantity contracting. A 3 € increase in the sheep premium base (21 €) is proposed to stockbreeders who agree to organise their deliveries (values recorded in 2013).

The granting of this premium is subject to three main conditions:
- **Flock size** (at least 50 ewes),
- **Technical productivity** (more than 0.7 lambs weaned per ewe),
- **The setting up of a planned marketing schedule:** this can involve either membership of a PO, or the signature of a trading contract with at most three buyers for at least 50% of the production. Arrangements can be made for short circuits and live sales. The monthly marketing schedule is transmitted to the buyers and the branch organisation by the PO or by the stockbreeder directly.

Poultry sector

A recent study by ITAVI (ITAVI, 2012) found four main types of contract according to whether or not the fowls belonged to the breeders and how the marketing was organised:
- **Type 1 cooperative contracts** (cooperative for procurement-collection-sale) where the breeder owns the fowls and belongs to a production organisation (PO) with membership shares,
- **Toll production contracts** (managed by national jurisdiction), where the breeder does not own the fowls, these being commercialised by a PO (management of scheduling and production organisation) without membership shares,
- **Non-integration production contracts** with a non-cooperative company,
- **Type 2 cooperative contracts** (joint operation cooperatives), where the breeder does not own the fowls, these being commercialised by a PO with membership shares.

This typology and the distribution of poultry farms according to the different types have changed little over time. However, we note some increase in the cooperative-type contracts. Their duration is on average one year except for young investors, for whom the contract duration is consistent with building amortisation time. The diversity of the contracts allows three functions to be fulfilled:
- **Insurance** against supply, demand and price variations risks,
- **Performance incentive** (technical itineraries, quality inputs, technical performance, etc.),
- **Coordination and reduction of transaction costs.**

The reference prices defined in these contracts are based on various indicators (input prices, smoothed quotations, individual and/or collective technical performance, etc.). Updating is done by automatic indexing, or more frequently by negotiation (prices of inputs and of the slaughter animals). Bonus/penalty systems are also used, e.g. for compliance with schedules or to encourage building renovation.

Upstream, there are close links with production organisations (POs), which organise production and manage schedules, and livestock feed manufacturers (LFMs), and to a lesser extent with the hatchery step. Downstream, few formalised written contracts are made between POs and slaughterers. Relations essentially cover annual forward planning, poultry classes, and monthly price negotiations.

Results

Situation in Europe

Overview

Marketing pigs on a spot price basis is the current method of reference in Europe. Alternatives are rare; the futures market, based first in Hanover and now in Frankfurt, is struggling to operate in Europe. An IFIP study (Roguet and Rieu, 2004) showed the limits of this type of marketing for European pig production.

In Germany, Hortmann Scholten (2011) describes four circuits for marketing slaughter pigs among the country's 30,000 pig breeders:

- Sale to private livestock dealers (commercial companies),
- Through some one hundred livestock marketing cooperatives, operating for that sole purpose (Viehvermarktungs-genossenschaften),
- Via sixty or so pig producer associations (Erzeugergemeinschaften) operating throughout the country, which also offer their members other services, and which are officially recognised,
- Direct sales to slaughterers, either on the open market, or via production or delivery contracts.

According to a current assessment (2013), nearly 40% of pigs are sold to livestock dealers (Table 1).

Tableau 1 : Types of marketing of pigs in Germany

Expressed in number of pigs commercialised	2011	2013
Livestock dealers (trading companies)	42%	40%
Marketing cooperatives	25%	30%
Associations of pig producers (groups)	25%	28%
Direct sale to slaughterers	8%	2%

Source: Ifip, from personal communications (VEZG)

About 30% of pigs are traded through marketing cooperatives, while 28% are marketed by groups of producers. The share of pigs sold directly by a producer to a slaughterer would be 2%. This proportion has notably decreased in the last two years, while that of commercialisation via marketing cooperatives or groups of producers has risen. However, these shares range widely among slaughter companies and from one German region to another (Roguet et al., 2006).

The signing of contracts between breeders and buyers providing for delivery of pigs for a fixed period with a contractually agreed price accounts for only a very small share of the pigs marketed in Germany, estimated at 5%. Breeders display little eagerness to sign contracts with their trading partners.

Common practice seems to be weekly mutual agreements, with broad regional diversity (Roguet *et al.,* 2006). The quantities offered are valued on the basis of a price most often set by the VEZG trade price or *Vereinigungspreis* (Antoine-Ilari *et al.,* 2009).

Westfleisch (third largest German operator with 12.6% of pigs slaughtered in 2012) is one of the few slaughterers that offer their cooperative pig breeders contracts as part of the Bestschwein programme. These contracts are based on the *Vereiningungspreis*, with a bonus that depends on the quantity delivered (2–4 euros per pig), plus an annual bonus reckoned on the cooperative's annual financial result. Contracts are yearly and imply the sale of the full pig supply (Roguet *et al.,* 2006).

According to the company's annual report, in 2012, these contracts accounted for 75% of the 7.3 million pigs slaughtered by the group, i.e. some 9% of the total German slaughtering. Apparently, these contracts are not identified as direct sales to slaughterers (Table 1), but instead integrated to the marketing cooperatives. In all, 2,225 breeders were involved who were members of the cooperative. These figures have remained stable since 2009. Livestock breeders delivering more than 8,000 pigs per year receive the highest bonus in the scheme (about 4 euros per pig); they account roughly for one quarter of the pigs bought under contract with Westfleisch.

In Spain, 50% of the national production is covered by integration contracts (70% in Catalonia); 30% of all pigs are sold through cooperatives, and 20% are marketed directly by breeders or through companies they control (FCAC, 2009).

The integrator is most often a company that manufactures composite feeds and possesses financial shares in a slaughterhouse. The company owns the animals and the breeder the building. The buildings house between 500 and 3,000 sows, or more than 2,000 fattening pigs. The breeder receives a fixed payment (11 €/pig in 2009),

for one cycle or for the duration of the contract. The major integrating companies include Vall Companys (largest Spanish producer), Agropecuaria de Guissona, and livestock feed manufacturers. Integration can also be «horizontal», among breeders. Lastly, the cooperatives can in certain cases sign integration contracts with some breeders.
The largest integrating companies make up the college of «Producers» in the weekly Mercolerida pig price negotiation commission (Lerida), opposite the «slaughterers-processors» (El Pozo, Frimancha, etc.). This spot price serves as a basis in transactions for pig sales by non-integrated breeders and cooperatives, over the whole of the Iberian Peninsula.

In Poland, the slaughtering sector is weakly concentrated. The slaughter capacity of the four largest companies accounts for about 30% of the country's output.
The largest slaughterhouse, Animex, which belongs to the Smithfield group, proposes contracts for most of its procurement. Some 40% of the pigs slaughtered are covered by a quantity-based marketing contract. This guarantees the purchase of pigs from breeders linked to Animex, with payment within two weeks at market price, using a payment system based on carcass classification specific to the slaughterer. These are long-term contracts that may be terminated only after a three months' notice. The remaining 60% of pigs are covered by production contracts, where the breeders are paid for labour costs, water and use of buildings. Animex supplies the piglets, 75% of which come from its own farrowing sheds. The other 25% are imported, mainly from Denmark. In this second case, the breeders are paid according to the price for which Animax bought the piglets and feed costs over three months. The prices are guaranteed and fixed, irrespective of market evolution.

In the Netherlands, only certain quality sectors operate with contracts: *Groene weg, Better Leven*, the organic sector, etc. These contracts are based on a market price with a bonus/penalty system, and sometimes take into account production cost. Quantities to be delivered are fixed. Breeders mostly market their pigs either via a dealer, or directly with slaughterers, or else export them. With the appreciable increase in the size of pig farms, modes of direct marketing are being developed. The pigs are sold at the spot market price, but a fidelity bonus can be applied by the slaughterer if the business relation is lasting. These sales are not formalised either in writing or orally, and are the result of customary practices (Janssens, 2011): «We've always sold to slaughterer so-and-so; we don't want to change.»

Production contracts, for both livestock feed companies and major farrowing farms, may make up at most 5% of Dutch production. The Vion group has attempted to set in place long-term deferred delivery contracts. This operation was not successful, unlike, for example, in the poultry sector, where they are much more common.

In Belgium, about 50% of porkers are produced under production contracts. The breeders receive piglets and feed. They are remunerated per pig produced, according to their productivity and the quality of the pigs, but also according to the market. These contracts have a duration of two years. They are now becoming more frequent in large-sized pig farms.
The remaining 50% are marketed on the market through a very wide range of modalities. This broad diversity of situations offers opportunities to dealers, who are active in the Belgian market: because of its relatively central position in the old EU15, live exports are quantitatively important, for both piglets and fattening pigs. Their value therefore varies according to the European market situation. As in the Netherlands, deferred delivery contracts, when they exist, are the exception.

Case of England and Italy

In **England**, there are no cooperatives like those found in France. Sales are managed individually. Marketing in 80% of cases is done through contracts, spot sales accounting for 10% of total quantities. The spot price is announced by the slaughterers and is fully negotiable. It is a very volatile market. Integration also accounts for 10% of slaughtered pigs. The Tulip company possesses about 35,000 sows (7% of the national herd), the production of which is exclusively reserved for the up-market British distributor Waitrose. The pigs are valued according to fixed preset prices, which is most unusual in this country. In Scotland, Karo (ex-Vion) owns 11,000 sows (2% of the national herd), the production of which goes to the company's slaughterer, but with no distribution contract.

Contracts are the main mode of marketing in England; these run for two to five years, with three to six months' notice of termination. Delivery is most often weekly, for a set number of pigs with precisely defined characteristics. If delivery remains constant over three months, a bonus of two pence is added (level delivery bonus). The value of the pigs is based on a weekly price stated in the contract. There are numerous reference prices in England owing to the broad range of downstream demand (pigs of different weight, different fatness, etc.).

In 30% of cases, the selling price is based on the dead-weight average pig price (DAPP), the average reference price of the preceding weeks. To this is applied either a bonus/penalty system (on quality, delivered quantity, etc.), or a guaranteed profit margin (e.g. two pence on average over the DAPP). In 30% of cases, the base price is a combination of the DAPP and an estimated production cost. In 30% of cases, it is a «shout price», a quotation transmitted by the slaughterer, who sets the price. This price is not negotiable by the breeder under contract, unlike the others. The main English slaughterers: Tulip, Cranswick, Woodhead, etc., offer this type of contract. A payment scheme based on weight and quality (back-fat thickness) is applied to this base price.

The largest breeders can sign several types of contract, or several contracts of the same type with different companies, as a way to manage price risk.

At the end of 2011, the Tesco group (the top British retail chain) announced the setting-up of a direct contract with pig breeders as from 2013. The objective was to supply Tesco with fresh meat for its own-brand, subcontracting slaughter and butchery to partner companies. The buying price would be revised monthly by a committee for the coming quarter to take into account price trends in raw materials. These contracts were to run for up to 36 months, enabling breeders to obtain a fairer price, gain income security and so plan the growth of their business. However, pig breeding practices had to meet the high standards of animal welfare prescribed in the group's specifications.

At the end of 2013, these contracts had not yet been put in place. The main reasons for this were:

- **A pig shortage in 2013**: when breeders under contract sent their notice of termination, slaughterers offered them better prices, to maintain their supply,
- **A problem with quantities and procurement area**: the Tesco group wanted to favour small breeders and local slaughtering, but this objective turned out to be very difficult to achieve in practice,
- **The payment rate proposed by Tesco** (single payment per carcass for certain cuts) did not always enable the subcontracting slaughterer to earn a satisfactory profit from the rest of the pig.

Tesco took these issues into account and duly ended the operation. However, this distributor is expected soon to relaunch its initiative, which was welcomed by some English pig breeders.

Pigs in **Italy** are mostly sold directly by breeders to slaughterers (70%). Out of the remaining 30%, 20% are marketed via production organisations and 10% by dealers.

About 90% of sales are made via contracts. The most frequent ones specify a quantity commitment based on a reference price, with a bonus of three to ten centimes per kilo live weight, according to the number of pigs to be delivered and the duration of the commitment (most often one year). There are also contracts based on production cost or extra costs linked to the production system, such as GMO-free pork. Recently, slaughterhouses have acquired a large proportion of the tools required for PDO processing, and now account for 50% of the production of Parma ham. Production is thus now in direct contact with the downstream operators.

The reference price is published by the CUN (the single national commission for the pig sector) every week on Friday for the coming week. It is derived from an agreement between the representatives of breeders and slaughterers. To this price is added the bonus agreed on in the contract, minus the penalties for carcass defects (weight, conformation); defects in hams also give rise to a penalty.

Situation in Brazil

In Brazil, there is a wide variety of modes of marketing and contract agreement for pigs.

Regional differences

In **Santa Catarina**, the top producing and exporting State, and the historical base of the great pork processing companies, integration is the norm. Defined by the existence of contracts between breeders and downstream partners (generally the slaughterer), integration accounts for nearly 60% of all pigs for slaughter, but includes different modalities and actors, which are detailed by Brazilian authors (Miele & Waquil, 2007):

- **Production contracts** between breeders, mostly fatteners, and large slaughtering companies (44% of slaughter pigs),
- **Marketing contracts** whereby breeders are tied to a slaughterhouse by an exclusive contract for sales and purchase of inputs (11% of commercialised pigs). The slaughterhouse pays the breeder a «market price», with remuneration according to quality (bonus). These market prices, bonus included, have generally been somewhat lower than the open market spot prices (Miele, 2011) in recent years. They translate a slight smoothing in relation to the spot price fluctuations,
- **The development programmes** cover modes of relations between breeders and cooperatives or private companies, and constitute a more flexible variant of marketing contracts, offering the buyer exclusivity and

the seller guaranteed sales (32% of pigs). The farms bound by this type of contract are overwhelmingly «farrow-to-finsh» operations. This system is similar to that observed in France between breeders and their cooperatives,
- **Independent breeders** sell their pigs on the spot market to a slaughterer or a dealer (12% of slaughter pigs). The latter ensures some grouping of the supply and prospection for sales.

The proportion of breeders under contract is very high in the other two southern States. The proportion of breeders with sows under contract (production and marketing contracts, and development programmes) is 87% for the South (Paraná, Santa Catarina, Rio Grande do Sul). Contract agreements are also widespread in the more recent development zone of the Center West, where it concerns 69% of breeders.
Independent breeders are strongly implanted in the Southeast of the country, close to the large conurbations of São Paulo and Rio. They deal with the local slaughterers who sell the meat, generally fresh and non-processed, on the regional market. In the State of Minas Gerais, 80.2% of pig farms were independent for the marketing of their pigs (UFMG-ASEMG).

Impact of contracts

The unfavourable business climate in 2011 and 2012, regarding both pig and raw materials prices , hurt independent pig farmers, who were more exposed to market volatility than breeders «under contract».
The breeders' integration, with ranging modalities, by large processing companies, both private and cooperative, was instrumental in the emergence of the Brazilian pig sector, especially for export. This mode of operation has helped the spread of technical progress and best practices. Integrating companies largely steer the structural evolution of the pig production, especially through specialising farms in farrowing or fattening units, and increasing their size to make economies of scale (transport) and gains in productivity while ensuring better herd health.
The situation in the South of the country is thus characterised by breeders on farms with low utilisable agricultural areas and modest income, heavily dependant on private or cooperative integrating industrial operators.
In the Center West and Goiás, farmers located on vast expanses of land have invested heavily in pig breeding buildings, and enjoy a solid financial grounding in partnership with large meat companies (Brasil Foods in particular). They have a greater negotiating power over both their pigpurchasing customers and their suppliers.
Relations between farmers and the agrifood industry are also a topical issue in Brazil. In 2011, the Senate tabled a law on integration to define the framework of these contracts more precisely, as the provisions of the Civil Code could not deal adequately with the specific features of agricultural contracts. The new law is intended to clarify certain points of contention in issues opposing the contracting parties, in particular the status of pig manure. There are plans to put in place conciliation boards to settle conflicts between breeder and integrator and thereby avoid resort to legal proceedings.

Figure 1: Map of Brazil's Regions and States

Situation in the United States

Trends in marketing contracts

The face of US pig production has changed a great deal in the last 25 years. Significant transformations took place in the 1990s (Van Ferneij and Rieu, 1995). In the period from 1992 to 2004 the number of pig farms fell by 70%, large units specialised in a single production step replaced the farrow-to-finish farms, and the use of contracts expanded (Key and McBride, 2007).

The United States has about 69,500 pig-raising farms, a certain number of which belong to the same owner (through the development of multi-site farms). In a study conducted in 2007 and updated in 2013 (not yet published), Key and McBride estimate that some 70% of pigs in the US, from 30% of the country's farms, are under **production contracts.**

This is especially the case for farrowing or fattening farms. Such an organisation has favoured the development of larger-sized farms in the US. Most integrators market pigs produced by their subcontractors via marketing contracts (MacDonald and Korb, 2011).

The Livestock Mandatory Price Reporting Act of 1999 made it compulsory for inspected slaughterers processing more than 100,000 pigs per year to declare to the USDA Agricultural Marketing Service (AMS) the prices and daily quantities marketed, together with their marketing modalities (Tonsor *et al.,* 2011, Plain 2013). Pig purchases can be categorised as follows:

- **Packer sold**: pigs raised by one slaughterer and sold to a different one,
- **Packer owned**: pigs kept, raised and slaughtered by a slaughterer. This is the share of US production under vertical integration,
- **Negotiated**: pigs raised by operators that are not slaughterers, and then bought by a slaughterer. The price depends on the «cash» or spot market, i.e. on a buyer-seller negotiation, which is conducted no longer than 14 days before slaughter,
- **Market formula**: pigs raised by operators that are not slaughterers and then bought by a slaughterer. The price is determined by a contractual formula based on a public pig quotation valid on the selling date,
- **Other market formula**: pigs raised by operators that are not slaughterers and then bought by a slaughterer. The price is determined by a contractual formula based on the Chicago Mercantile Exchange's lean hog futures at the time the contract is signed,
- **Other purchase agreement**: pigs raised by operators that are not slaughterers and then bought by a slaughterer. The price is determined by a contractual formula different from the two stated above,
- **Live weight priced**: pigs bought on the spot or «cash» market at a price based on live weight. This category includes some «packer sold» pigs,
- **Non-MPR** (Non-Mandatory Price Reporting) hogs: pigs slaughtered in a unit processing fewer than 100,000 pigs/year.

The information collected daily by the public statistical office is processed and commented on every year by Ron Plain, at the University of Missouri (Plain, 2013).

Overall, the share of production marketed under contract has been expanding strongly since the early 1990s (Lawrence *et al.,* 2007). In 2012 (Table 2):

- 30.7% of pigs come from a breeding site belonging to a slaughterer («packer») that can be the operator slaughtering the pigs (26.56% of the total) or a site belonging to another «packer» (4.1%),
- 3.4% of pigs are sold on the spot market («negotiated»),
- The three different contract modalities group 60.8% of pigs, with in order of importance «market formula» (38.9%), «other purchase agreement»: 14.6% and «other market formula» 7.3%.

***Table 2:** Pig sales according to their marketing mode*

		2002	2012
Purchase from slaughterers (1)	« Packer sold »	2.1	4.1
	« Packer owned »	16.4	26.6
	→	18.5	30.7
Without contract (1)	« Negotiated »	13.8	3.4
All contracts (1)	« Market Formula »	40.8	38.9
	« Other Market Formula »	8.7	7.3
	« Other purchase agreement »	12.2	14.6
	→	61.7	60.8
Others (2)		6.0	5.0
Total		100.0	100.0

(1) Price determined for carcasses, and submitted to MPR
(2) Price determined for live weight, and declarations not submitted to MPR

Source: IFIP, Plain, from USDA/AMS Market news reports

Ron Plain is concerned about the small share of «negotiated», which now amounts to only 3.4% of sales instead of 13.8% ten years ago (Figure 2). This price is a key component of price fixing for some 75% of the pigs bought under «market formula», «other market formula», «other purchase agreement» and «packer sold».

In all, about half of US pigs are sold on the basis of the negotiated price. Plain (2013) wonders how long there will be enough pigs under «negotiated purchases» to accurately represent the supply-and-demand balance of the market and so serve as a solid basis for evaluating prices of formulas for the other marketing modes. However, Key (2011) shows that there is no proven link between the use of production contracts and spot market price manipulation by slaughterers.

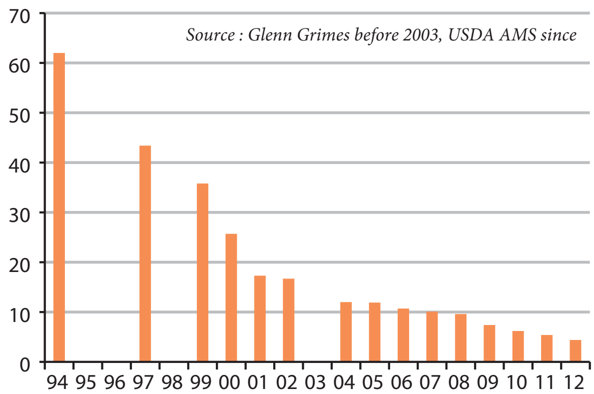

***Figure 2:** Percentage of porkers sold on the spot market in the US*

The law of 2010 on mandatory price reporting (MPR) compels slaughterers to state prices and quantities of pig cuts marketed wholesale. The declaration started in January 2013, and should allow a more precise calculation of the butchered carcass value («pork cut-out») than the former system based on voluntary declaration, which was ended in April 2013.
In time, these data may be more largely used as substitutes for the «MPR negotiated carcass hog price» (the official «spot» price) in marketing contracts between producers and slaughterers.

Modalities of commonly used contracts

Marketing contracts are very wide-ranging in the US, reflecting the diversity of pig farms, slaughterers, trading relations, the geographical areas concerned, etc. They are tailored to each business relation. The contract modalities are listed on the website of GIPSA (Grain Inspection, Packers & Stockyards Administration). They encompass a broad range of points that can be specified in a marketing contract.

The main terms of these contracts are (Lawrence *et al.* 2007, Plain and Grimes, 2010):

- **Duration of the commitment**: the contracts proposed by the slaughterers can be short-term, long-term or of undetermined duration.
- **Date and place of delivery**: the date is set in the contract but may be changed by common agreement, especially if the duration is long,
- **Quantity to be delivered**, often expressed in total weight: batches can range from 5,000 to 40,000 pounds live weight (equivalent to a contract on the Chicago futures market), i.e. about 25 to 200 pigs.
- **Reference price of the contract**, which can be a set value or a base price, sometimes entering into a formula for calculation. Such a formula can be constructed from one or more official quotations. The main sources are the Iowa/Minnesota, Eastern Corn Belt, National and Western Corn Belt prices.
- **Weight and conformation objectives**, with their associated bonus/penalty systems. The value-creation criteria are very wide-ranging: live weight, carcass weight, backfat thickness, and mean meat content, with scales expressed in percentage of the reference price or in value. The frequent presence of a «core range» qualifying for a bonus indicates a strengthened incentive process towards one type of production. Some contracts take into account the status of the four primary butchery cuts. A penalty is often applied for carcass defects, the presence of whole males, downgrading, etc. A bonus can apply for specific objectives.
- **Grading systems** authorised for measuring the variables stated above are also listed, along with calculation formulas when necessary. The main systems are Auto-fom, FOM, Ultrafom, AUS Syst, Hennessy and the gauge for measuring backfat thickness.
- **Various specifications, premiums and discounts**, such as fixing a unusual delivery time, etc. These clauses can be toughly negotiated, and depend on the relative leverage of the contracting parties.
- **Provisions for non-deliverable and non-acceptable pigs**: the buyer usually deducts these pigs from the sales receipt.
- Modalities **for the dispute settlements**.
- **The contract flexibility**, which is particularly important for long-term contracts: these clauses set the rules for renegotiating or reassessing the contract.
- Provisions concerning **defaults on the contract**: for example a defaulting seller is liable for all the resulting losses incurred by the buyer.
- **Other clauses**:
  - Conditions of purchase and payment,
  - Commercial practices,
  - General terms.

Different modes of price fixing

The system considered the simplest is the one termed **other market formula** in the USDA nomenclature in the Mandatory Price Report. It is a deferred delivery contract (DDC) based on the Chicago futures market. The slaughterer guarantees the producer a price fixed several months in advance based on the futures market value at the chosen delivery time, adjusted by a base specific to the slaughterer.
It enables breeders to know their sale price in advance and to manage their profit margin, while at the same time making their decisions batch by batch. However, sellers must decide independently whether the futures market price is, or will be, favourable for them or not. Sellers can also protect themselves by taking an option on the futures market on an opposite position. This system does not allow any smoothing of selling prices.
The swine market formula is a contract where the pigs are valued with a «public» reference price that can be consulted by everyone. This value can be included in a formula for calculation where bonus/penalty points can be added for quality, delivery, etc. The contract guarantees that the breeder will be paid at the time of delivery at the quotation price in force at that time in a specified reference zone (e.g. Iowa, Western Corn Belt, etc.).
This type of commitment is highly appreciated by producers in zones with lower pig densities. A contract based on a reference quotation for a high production zone (such as Iowa, for example) reduces the negative effect of a breeder being localised far from zones with a dense activity.

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This system guarantees that the pigs are marketed with a known system of remuneration, but does not offer any smoothing of selling prices.
The other contracts, grouped under the **other purchase agreement** category, cover a range of systems.
Some contracts are based on the reconstituted carcass value (value of cuts or wholesale price of primal cuts). Both slaughterers and breeders consider that this value more accurately reflects the intrinsic value of the pig.
Some slaughterers offer contracts based on the production cost (chiefly indexed on the maize and soy meal prices). This guarantees breeders a price that follows the evolution of their production cost and strongly reduces the fluctuation of their profit margin on feed costs.
«Window» contracts are quite popular. The specified reference price is framed by a minimum value (floor) and a maximum value (ceiling). Let us take for example a contract based on the Iowa/Minnesota price with a window of 50–60 $/cwt (carcass weight). If the Iowa price falls below the floor value of 50 $/cwt, the contract can oblige the slaughterer to pay the breeder at a price situated at the median between the reference price and the floor price. If the Iowa price exceeds 60 $ / cwt, then the breeder will receive a remuneration at the median between the ceiling price and the reference price. Outside the limits set, the two partners thus share the profit: the breeder accepts a price below that of the market if prices surge, and the slaughterer offers a higher payment if prices collapse.
In **«floor» contracts**, the seller agrees to deliver a specified number of pigs to a buyer at a given future date on the basis of a reference quotation, and the buyer guarantees the seller a minimum price (floor price). To offset the buyer's expense for guaranteeing this price, a reduction is most often made on the price usually asked by the seller. Thus the agreement might be payment for pigs at 98% of the Iowa/Minnesota price, with 44 $/cwt as the floor price. This type of contract is becoming more popular, and greatly appeals to loan organisations.
Many contracts include a **ledger**, i.e. regular book-keeping. In this case, the slaughterer follows the evolution of the price paid compared with a reference price (duly specified). This can be either a fixed target price, or a selling price estimated by the slaughterer (most often defined from quotation for cuts), or a monthly annual income figure. The partner that makes the most profit from the contract over its whole duration has to offset part of the difference by a compensation made to the other contracting party. This adjustment can take the form of a premium paid by the slaughterer to the breeder, or else a prolongation of the contract until such time as the profit is balanced equally. To sum up, the ledger offers a mechanism whereby the price paid is in effect an advance that will be adjusted under conditions provided for in the contract according to how the market evolves. Most of the contracts of the «other purchase agreement» type make use of a ledger: three quarters of those based on the cost of raw materials for animal feed, and 25% of «window» contracts (Plain et Grimes, 2010). The modalities of application are detailed in the contract.

Utility and limits of contracts

Pig breeders use contracts of the «other market formula» type or those that frame the price in the «other purchase agreement» category to reduce the risk of a fall in the selling price of their pigs and/or to obtain the guarantee of an acceptable selling price or one that is steadier. In consequence, it prevents them from taking advantage of any sudden rise in prices.
The aim may also be to secure sales, or to guarantee a representative market price in zones of lower pig density where negotiating power between production and downstream links of the pork chain is an important factor (contracts of the «other market formula» type).
In addition, although breeders may transfer all or part of their price risk, they are still exposed to the risks incurred in the production of pigs (Lawrence *et al.* 2007). Breeders in the US are highly specialised in either farrowing or fattening. The fatteners, who market at long time intervals, are more starkly confronted with price variability, because they cannot take advantage of the smoothing effect resulting from frequent sales.
Their operating system is also simplified: it is easier, especially for large-sized pig farms, to negotiate a multiannual contract with a slaughterer than it is to agree on a price for each batch. Likewise, transport costs are easier to manage when all the pigs go to the same slaughter site (Plain and Grimes, 2010).
The slaughterers in turn benefit from stable, secure procurement of pigs of a specified quality. This also enables them to reduce their internal costs by down-sizing the number of buyers and buying stations. Part of the price risk is transferred to the slaughterer, but can be lowered by taking out cover on the Chicago Mercantile Exchange (CME).
In the 1990s, contracts were very advantageous for breeders, because the slaughterers had overestimated future market prices. The contracts made in the 2000s were less generous, while most often remaining better than spot market dealing.
The use of ledgers is also being reexamined. Economists are not fully agreed on whether they should be regarded as an asset or a liability, an advantage or a disadvantage. Difficulty in assessing the final result long remained a disincentive to their use, in particular at the beginning of the 2000s (Haggerty, 1999).

Contracts in France

Current situation

In 2011 the company Powernext was given the mission of making a diagnosis of current tools for pricing and, inter alia, modes of negotiation and price fixing (Powernext, 2011). They found that the culture of the spot market prevailed in France and elsewhere in Europe.

Their analysis showed that ability to anticipate price variations both upstream and downstream was becoming an important issue. They considered this ability to be even more important than controlling production costs. To control these price risks, three solutions were proposed, of which one was the use of contracts.

Various contracts are used in France at production level:

- **Contracts for purchasing animal feed.**
- **Contracts for piglets:** these formalise trade between farrowers (or suckling farms) and fatteners, for some 4.7 million pigs in 2007 (Roguet *et al.,* 2008). Producer Organisations (POs) are involved in more than half of piglet sales, but with a broad diversity of practices (interrelation of pig farmers, fixing and regulation of piglet prices, model contracts, etc.). In dealing between members of a PO, the indexed piglet price of FNP / Coop de France BV is preferred. This quotation ensures a fair sharing, between farrowing and fattening activities, of the net profit made over the entire production process, while taking full account of the porker market context. This applies less to trade outside the POs, which is more closely tied to the market.
- **Contracts between breeders and contractors:** in 2006, 17% of pigs were fattened by subcontractors, especially in Brittany (Roguet *et al.,* 2008). These were production contracts, agreed independently between breeders, without intervention from POs.
- **Contracts between breeders and their POs:** Legally, the breeders who belong to a PO do not sign a contract, but instead submit an entry form stating a level of procurement of slaughter pigs and a timespan (three, five or seven years). The mode of payment (reference price, quality scale, time to pay, etc.) for the pigs is fixed by the board and is stated in the internal rules. It is a specific contract agreement, and all POs operate on this model (Coop de France). Breeders choose what type of cooperatives they want to belong to, according to the services they offer (collection/sale, services, procurement, etc.). 90% of the pigs marketed in France are sold through POs.
- **Contracts between POs and slaughterers:** contracts made between groups and slaughterers are seldom written. They most often rely on customary practice or agreements taken to be binding. The great majority of sales are based on agreed Dutch auction market prices.

In France, the transactions are mostly based on the Dutch auction of the Breton pig market (MPB), with payment schemes specific to each operator.

The price is fixed on Monday and Thursday every week. It takes into account the real transactions made after the downward auction bidding. The modalities concerning the operating of the market are detailed in the rules of the MPB (Antoine-Ilari, 2010).

However, alternatives have been introduced more or less recently.

First initiative: the Syproporcs/Kerméné DDC

An initiative agreed in March 2011 between the Syproporcs group and the Kerméné slaughterhouse provides for the marketing of some 400 pigs per week, via deferred delivery contracts (DDCs) of about 14 weeks (Table 3). The DDC is a three-party contract binding the breeder, Syproporcs and Kerméné. The PO and the slaughterer sign a framework contract stating the obligation of each party, such as the PO garantee role in the event of a default on delivery, for example. The breeder then signs a commitment per batch sold via the DDC, stating the number of pigs, the price and the delivery date.

Every week the slaughterer offers the Syproporcs members a price valid at five weeks or longer. These members are free to take a position or not on this future sale.

***Table 3:** Signatures of DDCs between members of Syproporcsand the Kerméné slaughterhouse*

Numbers of:	2011 (March-Dec.)	2012
breeders	32	37
contracts signed		96
pigs marketed	17,290	20,000

Source : Syproporcs

Some 10% of the members are regular users of DDCs (Llistosella, 2012). The batches are of various size, mostly ranging between 50 and 200 pigs. The breeders' practices also differ, from those who regularly market 50% of their pigs in this way, to those who prefer more «speculative» practices. Deliveries have always been honoured, despite sometimes wide one-off discrepancies between the contract prices of some batches and the Dutch auction price at the selling time. Not all breeders use this contract in the same way. Some sell a variable share of their production (usually 30–50%) via a DDC and the rest conventionally through the auction market. A specific formula has even been developed by Syproporcs to take this option into account. It enables breeders to make the most of both systems, remaining on the market for one part and securing their margin as much as possible for another part. According to a report drafted by Syproporcs, the breeders who have regularly sold pigs through a DDC have all made a profit on these sales, whether for a whole year such as 2012, or for the whole period 2011–13.

Other breeders sell batches through a DCC only occasionally, when the prices offered are above a threshold price that they fix themselves, usually based on an average cost price. This lets them secure a cost price for an often limited part of their production that guarantees them a worthwhile profit margin. This behaviour, although it cannot be banned, brings a risk of imbalance in the trading as a whole:

- **There is no guarantee that the prices offered reach the set thresholds,**
- **Their irregular presence does not enable the partner slaughterer to anticipate procurement,**
- **The risk-sharing specific to the DDC does not operate as the producer will sell only at a self-favouring price.**

However, as long as it concerns only small occasionnal quantities, this exceptional use of DDCs is very likely to last. Excessive use of this option would, however, undermine the organisation.

Next: the Breton pig market DDC

After this first initiative, the Breton pig market (MPB) proposed, as from the end of November 2011, a deferred delivery contract (DDC), of 6 to 20 weeks. This contract was open to any breeder belonging to a producer organisation (PO) affiliated to the MPB. Both buyers and POs must be certified by the MPB to have access to deferred delivery sales. Three buyers registered: the Abera slaughterhouse of the Glon group, the Cooperl group and the Kerméné slaughterhouse of the Leclerc group. Only the last one has actually bought pigs through the DDCs of the MPB.

The sale is framed by an agreement signed by the MPB and each of the actors present, both buyers and POs. It is completed via contracts binding slaughterers and breeders. The pigs are offered for sale once a week from a catalogue provided by the MPB that describes the deferred offer. The breeder sends the MPB a proposal form stating the total number of pigs offered (in batches of 50), the delivery week, and a target price, which is not published in the catalogue. This form is cosigned by the PO, which undertakes to support its members in the execution of their obligation.

The sale is carried out by Internet, in the form of upward auction bids, the top bidder taking the batch of pigs concerned. If the breeder's target price is not reached, price offers from buyers will be transmitted. The breeder can decline the sale and postpone it to the following auction session.
The deferred delivery contract:

- **indicates the date the sale is registered and the batch number concerned**,
- **states the sellers** (breeder and PO) **and the buyer**,
- **specifies the characteristics of the pigs** (French VPF certified pigs, pigs for third market export, etc.), **the base price fixed at the sale**, and the number of pigs concerned. The pigs will be weighed and classified by Uniporc Ouest agents. The payment scheme, on muscle percentage or total weight, are those of the CRP/UBAP agreements in force.
- **states the week for collection**, at the buyer's expense, and **the destination of the pigs** (name and address of the slaughterhouse).
- **sets the mode and deadline for the payment of the pigs, and the financial penalties incurred on any default in the execution of the contract.** The POs to which the breeders belong act as guarantors for the delivery to the slaughterers.

This document is then signed by all those involved, including the MPB.
In the first months after the MPB DDC was launched, the number of pigs presented ranged from 500 to 4,000 heads per week, and then fell considerably. In 2013, no pigs were marketed this way despite some presentations. The last sales took place in December 2012. No default in delivery occurred out of all the quantities marketed. As there was only one buyer present, it was decided not to publish any quotation.
The MPB's approach was based on that of Syproporcs, at the instigation of some breeders who had three to four month feed procurement contracts. The review made for the 2012 annual general meeting showed that on average over the year, the price fixed by the DDC was equivalent to that of the Dutch auction, representing the spot market.
However, the break in trading since April 2013 illustrates that this marketing system falls short of breeders' current needs. Among the reasons for this break, we can note an already very high price level in 2013, and expected further price rises for pigs. A system of price guarantee has little appeal when there is a prospect of high spot prices in a context of high production costs.
In addition, the business climate was unfavourable at the time the DDC was launched, with the price surges of 2012. These occurred at unexpected times (both in February and in September), which caught both sellers and buyers unprepared.

Advantages and limitations

Independently of the market situation, actors of the production link also attest that most breeders are not used to looking three months ahead to estimate selling prices. Many have a spot market habit for pigs, even those who seek to hedge on raw materials markets. The «market» that evolves day by day is viewed as an objective measure of the real situation, and is the ultimate arbiter. Straying from it is deemed risky, and even worse, feels like infringing a natural law, even if the purpose is merely to get closer to another objective reality, that of production cost.

Proposing longer buying periods might offer protection against seasonal variations and entice breeders to invest in longer-term contracts. It is also important to take into account an effect of sales frequency and seasonal patterns of price smoothing. Farrow-to-finish breeders are much less exposed than fatteners to price variations such as seasonal variations (during the year), pig cycle variations (over a period of several years) or other less predictable variations, because of their regular sales, which produce a smoothing effect on prices.

At the same time, slaughterers cannot afford to make mistakes in their purchasing, given the already tight profit margins. In the absence of contracts between slaughterer-butchers and processors, the pricing of pork cuts ex-slaughterhouse is just as variable and just as difficult to predict as pig prices. In most cases, slaughterers prefer to manage a short-term profit margin rather than a medium-term purchase price. Some say they feel uncomfortable with a buying price different from the spot price. They are reticent about buying pigs at 1.50 €/kg from a breeder under contract when the spot market price is 1.70 €/kg, and cannot envisage the reverse situation financially.

For Kerméné, the aim is above all to enter the approach, because a volume of 10% of purchases by contract does not truly represent any guarantee of procurement, even at the times of year when the supply falls.

However, the slaughtering-butchery operators seem to have become aware of the tightening of supply in France. If there is ever a shortage in France, and in particular in the Breton pig-rearing areas, the use of marketing contracts, whether deferred delivery or not, could be once more considered. The aim would then be to cover a quantity risk rather than a price risk. In that case, reflections will need to be carried out at the sector scale, because the marketing contracts, especially deferred delivery contracts, work better if they are applied to the different links in the chain.

In both cases, the DDC forms an additional, non-exclusive marketing tool for part of breeders' sales, which enables them to manage the price risk they often have to face.

However, using DDCs presupposes good knowledge of cost prices: accordingly, all breeders from Syproporcs taking this approach have to undergo training for that purpose.

In addition, to best secure income, breeders must be covered for at least part of their purchases, in particular feed.

On the slaughter side, Kerméné thus wishes to secure a part of its needs, in particular when supply is reduced relative to demand, and dealing on the MPB is toughest (Réussir Porc, 2011). This is also an insurance for the future, anticipating a reduced regional and national supply. But this presupposes that breeders do not choose another path when prices are high.

Other price fixing practices for breeders

There are other guaranteed price approaches for breeders in special situations, but they are not very widespread. Most cooperatives prefer to set up a system of expert support, especially for their youngest members, for both administrative formalities and technical and economic follow-up. When a young operator starts up independently of a family business, or in the case of capital investment or substantial development of production capacity, rare producer organisations can offer a guaranteed price, set according to the Dutch auction price (market price) and the cost price. This price, which is guaranteed by the group's fund, is assured for the breeder (no subsequent reimbursement). It is financed through the group's collective endeavour, for the purpose of developing local production.

Discussion

Main clauses in production contracts

A contract implies legal obligations. In particular, clauses regulate situations in which the conditions provided for are not fulfilled. To cover the risks described in the first chapter, certain variables in these contracts must be clearly defined:

- **Definition of terms used** (seller, buyer, slaughter pigs, sows, etc.),
- **Dates/periods and place of delivery**,
- **Duration of the contract:** short-term, long-term, indefinite,
- **Amounts traded:** absolute set value, minimum value, or all the breeder's production,
- **Competition clause:** whether or not the breeder may sell pigs to other buyers,
- **Method for fixing the base price:** if the aim is price smoothing over time, the parties can use a fixed-price DDC or one with limiting values (minimum and/or maximum). If the aim is to guarantee a profit margin, indexing the paid price to the cost price is a good way to calculate the selling price, in particular when the cost is based on a feed price that is itself smoothed by a contract. If the selling price is not fixed in the contract, a market-linked reference price is used, which forms the basis for paying the breeder. Currently, the reference in France is the Dutch auction price. Similarly to the trend in the US, reference to a price indexed to the reconstituted carcass value would introduce a closer link between upstream and downstream of the pork industry,
- **Definition of how transport costs are borne,**
- **Required quantity and quality of pigs or carcasses** (weight, muscle percentage per cut, genetics, yield, pH, etc.),
- **Method for classifying pigs**, classification equations,
- **Payment schemes** for quality of pigs or carcasses,

- **Statement of production specifications** (feed, care, genetics, quality approach, etc.),
- **Traceability:** identification of documents to be supplied or kept,
- **Procedures to regulate quality defects** (types of return to breeder, specification of a period of transition to improve quality, etc.),
- **Clauses covering pigs refused** at loading or that died during transport or unloading, and for carcasses or declassified cuts,
- **Conditions of payment and credit**, guarantees of payment given by the buyer, studies of solvability of the contracting parties, payment deadlines, etc.,
- **Contract revision clauses** (in particular in the case of long-term contracts): changes in dates and/or delivery periods, mode of price calculation, classification, quality of pigs, quantity sold, etc.,
- **Procedure for the management/resolution of disputes**, in particular, the jurisdiction ruling the contract. In France, the cooperatives depend on civil and not commercial jurisdictions. The settlement of disputes is also dealt with by the International Arbitration Chamber of Paris, at the Trade Stock Exchange,
- **Clauses for force majeure:** disease on the pig farm, bad weather, strikes, fire, changes in regulations, etc.,
- **Confidentiality clauses,**
- **Clauses for termination of the contract,**
- **Procedure for closing the contract,**
- **Miscellaneous.**

Analysis of need

The geographical concentration of the actors and the organisation of the pork industry limit the procurement and marketing risks. The standardisation of pigs makes these relatively interchangeable. Only specific productions (organic, local breeds, PGI, etc.) have felt the need to contract their trading. Finally, because of the predominance of the farrow-to-finish system in France, the frequency with which pigs are marketed allows a smoothing of prices at short or medium term, so lessening the usefulness of a fixed or smoothed price contract.

The slaughterers are faced with a market for cuts with strongly fluctuating prices, and carcass pricing can change markedly from one week to the next according to customers' needs (Van Ferneij *et al.*, 2004). They mainly seek short-term maintenance of their gross profit margin, through parallel fluctuations of their buying and selling prices.

Some operators downstream of the slaughter-cutting link are interested in contracts. These operators include the MacDonald's fast food chain. This company offers producers and slaughter-cutting operators three-party contracts to guarantee the French origin of the products retailed in their French outlets. The contracts govern commitments for quantities and fix prices for several years. This enables the chain to secure part of its procurement.

In the organic pork sector, the retail distributor Système U signed a partnership at the beginning of 2013 with some 180 organic pig breeders (LSA, 2013), jointly with industrial companies , to produce a range of fresh and processed organic pork products (Legendre *et al.*, 2013). The retailer's aim is to guarantee regular procurement of good quality and support the development of the sector confronted with an organic pork offer sometimes judged «insufficient».

Mass catering companies, which offer services in a broad framework (corporate communities, education, healthcare, etc.), sign procurement contracts with their industrial suppliers that fix prices and quantities, and which can run for long periods (several months, a year, or even several years).

In addition, at the distribution link, the development of own-branded products by retail chains is also flagged by contracts between the retailer and industrial operators for product creation, with special price fixing modalities. The industrial operator is viewed as a «service provider». These own-brands hold an important place in the pork sector. Outside hard discount, own-brands accounted for about 50% of the pork products (in weight) bought by households from self-service shelves in 2013.

Utility of contracts

In summary, contracts are chiefly used to guarantee sales, procurement or product quality, or to guarantee a profit margin or a price.

In France, the main utility of marketing contracts for pigs would be to protect operators from strong price variations. The pig market is by its very nature subject to wide swings, historically known and anticipated (seasonal trends and the «pork cycle»). However, in the last few years, the pig market has suffered several shocks of high amplitude and long duration linked to the economic and financial crisis, which have made the market difficult to follow and anticipate. The raw materials market for animal feed has also experienced strong variations and has come to bear heavily on breeders' incomes. **Faced with these new circumstances, what can marketing contracts bring to the pig trade?**

Knowledge to master

In response to these established difficulties, appropriate solutions can be proposed through contract agreement, potential financial instruments or suitable systems of provision that regulate taxation and offer protection against hazards.

Some hypotheses may be advanced:
Indexing selling price on cost price enables breeders to protect themselves from strong rises in feed prices, and so secure a profit margin.
Conversely, contracts covering feed lend a degree of control over cost price, which can be extended by sales of pigs at prices fixed in advance, still with the aim of preserving a profit margin. In all cases, the breeders must have good technical and commercial indicators for their pig farms, and in particular they must know how to quickly figure out their cost price.
For slaughter-cutting operators, the only advantage in signing purchasing contracts is when they can anticipate needs and have good prospects for prices of cuts. This therefore implies better coordination between the chain's upstream and downstream links.

Necessary market conditions

According to Powernext (2011), the links between the successive links in the chain are currently not particularly favourable to fixed-price deferred delivery contracts. These types of contract work particularly well when there is within the chain a desire to regulate the price system for all its links. However, in France there prevails a narrowly commercial attitude where the operators defend their immediate interests, through day-to-day dealings according to their negotiating power.
However, contracts, especially if they are price-indexed, are needed to guarantee sales and procurement of products with tight specifications, with fewer substitutes on the market.

Conclusion

In France, although marketing contracts for agricultural products already exist, the sale of slaughter pigs to slaughterers relies mainly on non-contractual agreements and customary trading practices.
Experience outside France shows that contracts can ensure regular sales of pigs (US) or guarantee a profit margin. The aim may also be to spread the price risk over several operations (England) or offer breeders in low pig density areas the possibility of a higher price (US).
The predominance of the farrow-to-finish system in France and the resulting very frequent marketing of pigs (from once a week to at least once a month), allows short- and medium-term smoothing of prices, which lessens the utility of a fixed- or smoothed-price contract. The standardisation of pigs makes them easily interchangeable. The geographical concentration of the actors and the organisation of the French pork sector limit both sales risks for breeders and procurement risks for slaughterers. The Dutch auction offers breeders a clear, transparent price fixing system. This twice-weekly reference structures the pig market in France.
Until now, it has been mostly within differentiated sectors with limited production volumes and small numbers of operators, such as organic pork, that operators have felt the need to trade under contract.
However, inter-annual variations in prices of pigs and feed are large, especially for feed since 2007. To smooth the selling price of pigs and feed, long fixed-price contracts can be envisaged. However, given the difficulty met in precisely measuring the negative effects of volatility on the economic results and the cost of implementing contracts, accurate simulations would be necessary to compare their utility with that of other arrangements, such as mutual funds or tax-free provisions.

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