Veterinary export certification

Potential barriers to Dutch exports in world markets

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The official veterinary export certificate is a comprehensive instrument to regulate risks of animal disease transmission in global food trade. This paper documents how veterinary health attestation by public veterinary service in the Netherlands prevents export impediments. In order to maintain the position on international markets, a continuous effort is required on behalf of public and private agents in The Netherlands to keep certification practices in line with ever-changing import conditions.

Het officiële veterinaire exportcertificaat is een veelomvattend instrument voor het beheersen van de risico's van de verspreiding van dierziekten. In deze studie wordt gedocumenteerd hoe de exportcertificering in Nederland bijdraagt aan het voorkomen van belemmeringen in de uitvoer. Om de huidige marktpositie van Nederlandse exporteurs te behouden is een continue inspanning geboden van publieke partijen en bedrijven, die erop is gericht om certificering goed te laten aansluiten bij voortdurend veranderende importeisen.

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Preface

As tariffs and trade-distorting support decline, regulation-based nontariff measures (NTMs) become relatively more important drivers of international trade flows. At present, however, there is little insight on their trade impact. NTMs in agrifood trade reflect domestic policy objectives and concomitant regulation on a wide range of issues including product specification and labelling risk control measures (food safety, animal health and plant health). This study documents how veterinary export certification at the level of Dutch government may prevent obstacles for export. It does so without prejudice to the importance of controlling risks related to animal disease in trade. One set of difficulties is in meeting import conditions related to animal disease status. These impediments are well-known and have helped to shape international markets for livestock products. Another set consist of problems where the recognition for disease control in The Netherlands is lacking. The latter problems in the area of information and trust require other solutions than those related to disease status. This proposed distinction may advance policy-making on veterinary trade barriers.

This study has been prepared for the Ministry of Agriculture, Nature and Food Quality (LNV) under Cluster 'Economisch Perspectiefvolle Agroketens' (BO-03); Thema 'Macrotrends en sociaal-economische vragen in internationaal verband' (BO-03-003). Guidance and support from Dr Evert Jan Krajenbrink and Jochem Porte at the Ministry are gratefully acknowledged. In addition, the authors have benefited from discussion with the members of the strategy group for veterinary export certification in summer 2009.

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Director General LEI Wageningen UR

Summary

Animal health standards and regulations, while instrumental to maintain the global public good of disease control, have a profound impact on trade in animal-based products. Most importers specify (positive or negative) lists of products that are eligible for importing from the EU and/or the Netherlands with detailed instructions on the prevailing conditions. A pivotal issue for exporting is to provide guarantees that the importer's requirements are met. Such guarantees are issued by the authorities responsible for animal health control in the Netherlands in the form of statements and attestations on a veterinary export certificate. Generally, a veterinary certificate is required in the trade of livestock, genetic material of live animal (semen, embryos), meat and by-products of slaughtering, dairy products and feed.

The livestock sector and the veterinary service in The Netherlands maintain a high standard of disease control and the organisation of export certification aptly responds to continuous changes in import requirements. These factors are important in preventing trade impediments with regard to veterinary export certification and animal health regulation faced by exporters of animal products in the Netherlands. Export certification is mandatory in exports to non-EU markets only, and generally not required for intra-EU trade. The total annual volume of animal products shipped to non-EU destinations is 3.5b euro, equivalent to 6% of the annual agricultural export value in the Netherlands.

Operations of the veterinary export certificate in trade

On account of the large number of destination countries for meat and dairy exports, Dutch exporters appear relatively well-positioned in terms of the access to international markets. There has been a gradual phasing out of trade restrictions related to a sequence of animal disease outbreaks since the millennium change. This has coincided with a rising number of binding veterinary agreements on the attestations in the export certificate (where, before, exporters and importers relied more on ad hoc certification), especially in meat trade. In dairy trade, non-binding certificates are standard practice.

While the potential trade barriers and problems related to veterinary certification are diverse, a two-tier distinction is proposed. *Conformity failures* occur when veterinary certification is obstructed as the result of non-compliance of products or production processes with the veterinary regulations maintained by the importer. Commonly, the measures are ad hoc measures relating to disease

outbreaks with a temporary nature. Conformity failure creates actual or potential export losses, and remedial action is aimed at keeping trade ongoing. In the case of *recognition failure*, the products and processes in the export industry are complying with the veterinary regulations but there is a lack of recognition on the standard of veterinary service in the exporting country, i.e. the Netherlands. This is either caused by temporary friction, where regulatory change in either trade partner requires amendments, or by a prolonged process of market opening.

An industry-level/governmental set of trade problems and barriers

As an information base, the records for 2004-06 have been analyzed of two public-private platforms for issues on veterinary export certification. The strategy group for veterinary export certification (VEX) is a forum of business and government representatives that meets bi-weekly to discuss current regulatory barriers or threats of upcoming barriers related to animal health status and veterinary export certification. The working group on certificates and instructions (WCI) is an executive group of representatives responsible for drafting or revising texts of veterinary export certificates. They are composed of ministries on agriculture and health, the food and consumer product authority (VWA) and a representation of the relevant Product Boards. The WCI has delivered advice on hundreds of certificate texts and instructions for compliance over the years 2001-06 is.

Within VEX, 166 cases were addressed in 2004-06. An examination of the records of VEX reveals that export certificates were a regular cause of regulatory problems that may have caused, or threatened to cause, export losses. VEX has focused for more than half of its activities over the years 2004-06 on a selected set of 12 trade partners. Six out of ten cases addressed recognition failures, mainly related to Russia (19 cases) and China (14 cases). Dozens of cases of recognition failure, many involving Russia and China, result from aims to open markets by veterinary cooperation. Where such efforts succeed, the volume of the potential export market for products from the Netherlands is clearly expanded.

There are obvious economic gains from a low-cost compliance to import requirements. While the study does not examine the costs of compliance to the exporting firms, the analysis underscores the importance of the activities in the VEX and WCI committees in flagging recognitions and conformity failures and in contributing to least-cost solutions due to its close relations to the industry. These committees support the chief veterinary officer (CVO) in the Netherlands in his efforts to gain and maintain access to relevant export markets.

Veterinary export certification as a driving factor or barrier of exports of animal products

At face value, conformity with animal disease requirements in the world market is becoming less relevant to the export performance of the Netherlands over time. This has to do with an increasing orientation on the home market in the EU. The euro value of extra-EU exports has expanded only moderately by 1.5% per annum over the past two decades, against a 3% rate for intra-EU exports. For all product groups we observe that the share of exports to non-EU markets in the export portfolio is declining over time, except for feed ingredients. It is possible, of course, that the orientation away from non-EU destinations is related to the presence of NTMs in accessing these markets. While the real drivers remain unclear in our analysis, the data provide no grand support for the view that once-important markets have been closed for exports from the Netherlands but they do indicate the regulatory difficulties in acquiring access to new markets and the ongoing efforts required to safeguard access to foreign markets.

Samenvatting

Normen en voorschriften op het gebied van diergezondheid, onmisbare instrumenten voor de mondiale beheersing van dierziekten, hebben een grote invloed op de internationale handel in dierlijke producten. De meeste importeurs hebben (positieve en negatieve) lijsten met producten die in aanmerking komen voor import vanuit de EU of Nederland met gedetailleerde instructies over welke voorwaarden van toepassing zijn. Voor de export is het zeer belangrijk om te kunnen garanderen dat er aan de eisen van de importeur wordt voldaan. Dergelijke garanties worden in Nederland afgegeven door de overheidsinstanties die toezicht houden op diergezondheid in de vorm van verklaringen op veterinaire exportcertificaten. Een veterinair certificaat is meestal noodzakelijk bij de handel in vee, genetisch materiaal van levende dieren (zaad, embryo's), vlees en bijproducten van de slacht, zuivelproducten en diervoeder.

De dierlijke sector en de veterinaire dienst in Nederland hanteren een hoog niveau van dierziektencontrole en de organisatie rondom exportcertificering is ingesteld op voortdurend wijzigende importeisen. Deze factoren zijn van groot belang in het voorkómen van handelsbelemmeringen met betrekking tot veterinaire exportcertificaten en voorschriften op het gebied van diergezondheid in de uitvoer. Hierbij wordt uiteraard rekening gehouden met het belang van risicobeheer met betrekking tot dierziekten in de handel. Exportcertificering is uitsluitend verplicht voor export naar markten buiten de EU en is meestal niet nodig voor handel binnen de EU. Het totale volume aan dierlijke producten dat jaarlijks naar bestemmingen buiten de EU wordt verscheept, heeft een waarde van 3,5 miljard euro. Dit is 6 procent van de jaarlijkse exportwaarde voor landbouw van Nederland.

Het veterinaire exportcertificaat in de handel

Gezien het grote aantal bestemmingslanden voor vlees- en zuivelexport hebben Nederlandse exporteurs een relatief goede positie als het gaat om toegang tot internationale markten. De handelsbelemmeringen met betrekking tot een aantal achtereenvolgende dierziekte-uitbraken sinds de millenniumwisseling zijn geleidelijk aan verdwenen. Tegelijkertijd was er een toename in het aantal bindende afspraken met handelspartners over de verklaringen op de veterinaire exportcertificaten (waar exporteurs en importeurs voorheen eerder uitgingen van verzoekcertificering), vooral in de vleeshandel. In de zuivelhandel worden er vrijwel altijd niet-bindende certificaten gebruikt.

Hoewel de mogelijke handelsbelemmeringen met betrekking tot veterinaire certificaten zeer divers zijn, kunnen we twee hoofdgroepen onderscheiden. *Conformiteitsproblemen* treden op wanneer er geen veterinair certificaat kan worden verkregen doordat producten of productieprocessen niet aan de veterinaire voorschriften voldoen die de importeur hanteert. Meestal gaat het om tijdelijke kwantitatieve handelsrestricties naar aanleiding van uitbraken van besmettelijke dierziektes. Door conformiteitsproblemen ontstaan (mogelijke) exportverliezen en tegenmaatregelen zijn erop gericht om te voorkomen dat de handel stilvalt. In het geval van een *erkenningsprobleem* voldoen de producten en processen binnen de exportsector wel aan de veterinaire voorschriften, maar wordt het niveau van dierziektecontrole in Nederland niet als afdoende erkend door het importerende land. Dit kan worden veroorzaakt door een tijdelijk probleem, waarbij een verandering in de voorschriften van een handelspartner ertoe leidt dat er wijzigingen moeten worden doorgevoerd. Anderszins is er op sommige markten sprake van een langdurig proces van marktopenstelling.

Een aantal handelsbelemmeringen op sector-/overheidsniveau

Ter empirische ondersteuning is een analyse gemaakt op basis van de dossiers over de jaren 2004 tot 2006 van twee publiek-private platformen voor problemen met veterinaire exportcertificaten. De beleidsgroep Veterinaire Exportbelemmeringen (VEX) is een forum van bedrijfs- en overheidsvertegenwoordigers die geregeld de actuele en eventuele toekomstige belemmeringen bespreken op het gebied van voorschriften met betrekking tot diergezondheid en veterinaire exportcertificering. De werkgroep Certificaten en Instructies (WCI) is een werkgroep van vertegenwoordigers die verantwoordelijk is voor het opstellen en herzien van teksten op veterinaire exportcertificaten. Deze werkgroep bestaat uit de ministeries van Landbouw en Volksgezondheid, de Voedsel en Waren Autoriteit (VWA) en een vertegenwoordiger van de relevante Productschappen. In de periode van 2001 tot 2006 heeft de WCI meegewerkt aan honderden teksten voor certificaten en instructies voor naleving.

Binnen de VEX zijn er in de periode van 2004 tot 2006 166 zaken behandeld. Uit de dossiers van de VEX blijkt dat er regelmatig problemen waren met de voorschriften voor exportcertificaten, wat mogelijk exportverliezen heeft veroorzaakt of dreigde te veroorzaken. Meer dan de helft van de activiteiten van de VEX was in de periode van 2004 tot 2006 op slechts 12 handelspartners gericht. Zestig procent van de behandelde zaken had te maken met erkenningsproblemen, vooral met betrekking tot Rusland (19 gevallen) en China (14 gevallen). Tientallen van deze erkenningsproblemen, waarvan vele met betrekking tot Rusland en China, zijn het gevolg van pogingen om markten open te

stellen door middel van veterinaire samenwerking. In de gevallen dat dit daadwerkelijk gelukt is, is het volume van de mogelijke exportmarkt voor producten uit Nederland duidelijk groter geworden.

Er zijn duidelijk financiële voordelen te behalen door goedkoop aan de importvereisten te voldoen. Hoewel deze studie niet ingaat op de kosten voor exportbedrijven om aan alle eisen te voldoen, blijkt uit de analyse dat het belangrijk is dat de VEX en de WCI erkennings- en conformiteitsproblemen signaleren en dat zij bijdragen aan goedkope oplossingen, omdat zij veel contact hebben met de exportsector. Samen met de Chief Veterinary Officer (CVO) van Nederland zetten deze werkgroepen zich in om toegang tot relevante exportmarkten te krijgen en te houden.

Veterinaire exportcertificaten als drijvende kracht of belemmering voor de export van dierlijke producten

Op het eerste gezicht wordt veterinaire exportcertificering steeds minder relevant voor de exportprestaties van Nederland. Dit heeft te maken met het feit dat Nederlandse exporteurs zich in toenemende mate richten op de thuismarkt in de EU. De eurowaarde van de export naar markten buiten de EU is de afgelopen 20 jaar slechts matig gegroeid met 1,5 procent per jaar ten opzichte van 3 procent voor de export naar EU-markten. Het aandeel van de export naar markten buiten de EU in het exportportfolio voor alle productgroepen - behalve voor diervoeder - neemt steeds verder af. Het is uiteraard mogelijk dat de teruglopende exportgroei op markten buiten de EU te maken heeft met de aanwezigheid van non-tarifaire maatregelen. Hoewel de echte drijfveren in onze analyse onduidelijk blijven, komt uit de gegevens geen beeld naar voren dat belangrijke markten volledig gesloten zijn voor export uit Nederland. Uit de gegevens blijkt wel dat veterinaire certificering op problemen stuit bij het verkrijgen van toegang tot groeimarkten voor de afzet en dat blijvende aandacht nodig is om de toegang tot buitenlandse markten te garanderen.

1 Introduction

There is increasing attention for the trade impacts of regulatory policies, such as technical regulations and standards that address food safety and health risks in trade. A rising body of cases indicates that these regulations will prevent that the reduction of traditional barriers in agriculture and food trade, such as tariffs and quotas, results in an expansion of trade and reaping the gains from trade.

Motivation

Governments use various measures, ranging from import bans and quarantine measures to food safety requirements as import conditions, in order to minimize food safety and health risks associated with imports of agrifood products. Such risks relate to the possible health hazards caused by foreign products, including the importation of invasive species or diseases that are harmful or perceived harmful from a health point of view and can cause damage for domestic producers. While protecting health of humans, animals as well as plants in the importing country, safety requirements also help to globally manage and eradicate infectious diseases, thereby contributing to a global public good. These motives provide rationale for governments to require that both domestic and foreign products satisfy certain safety and health standards.

As opposed to traditional trade policy measures, safety requirements are considered as nontariff measures (NTMs), and their potentially trade-restricting effect is often indicated. Trade impediments are likely to occur if the requirements of importing countries are tighter than national ones and vary across importing countries such that exporters have to meet several different requirements to supply foreign markets. However, the trade effect is difficult to ascertain, and it has only recently been acknowledged that requirements for exporting agrifood products can also promote trade. Several mechanisms for trade-promoting exports are discussed in the literature. A lot of attention in the economic literature has been given to the positive impact on consumer demand from increased trust in the quality and safety of imported goods. An insight from the interdisciplinary literature on import risk is that risk control measures at the border, even if they reduce trade compared to a free-trade benchmark, can be considered to facilitate the exchange of agrifood products; risk control opens the door for controlled imports, and in their absence, quarantine measures and import bans are the only alternative to effectively control food safety and health risks.

Research questions

Obvious questions arise over the economic and trade effects of non-tariff measures that serve animal health, plant health and food safety encountered by exporters in the Netherlands. Import requirements play a particularly important role in trade of products of animal origin, which are generally regarded as high-risk products that can present serious health hazards. As veterinary export certification can be considered a pivotal procedure for exporting it provides a useful focus for studying the impact of animal disease regulation on Dutch exports. The present study is presented as a case study on technical regulations and standards with a (potentially) prohibitive effect on trade (Josling, Roberts and Orden, 2004).

There is little literature on the implications of veterinary certification on animal exports from the Netherlands. Most studies that examine veterinary issues in trade have looked at the impact of outbreaks of infectious diseases such as BSE and food and mouth disease (FMD) in 2001, and avian influenza in 2003 and 2006. Two studies that reported problems regarding the delays in restoring market access after such outbreaks have pointed out that the difficulties in endorsing required animal health guarantees impedes a rapid recovery of exports after an outbreak is over (Buck, 2004; Achterbosch, 2007). In this study we assess how veterinary export certificates operate in the exports of animal products of the Netherlands.

As an information base, we analyzed the records from two public-private platforms on veterinary export certification under the auspices of the Netherlands ministry of Agriculture, Nature and Food Quality (LNV) and the veterinary information point (VIP) of the product boards of livestock, meat and eggs (PVE), dairy (PZ) and animal feed (PDV). We explore the documentation and assess to what extent it gives insight into the regulatory barriers encountered by exports of animal products. From this, conclusions are drawn as to what the extent the problems in and solutions to nontariff barriers related to veterinary export certification have been a driving factor of exports of animal products.

Structure of the report

An in-depth discussion of veterinary export certification and how it affects exports is provided in chapter 2. Chapter 3 examines the records of VEX and WCI on nontariff barriers that have been addressed in the years 2004-06. Chapter 4 asks to what extent the activities of VEX and WCI on nontariff barriers related to veterinary export certification have been a driving factor of exports of animal products. It describes the data limitations that have prevented an in-depth analysis and proceeds to illustrate the difficulties in a case study framework.

Limitations

There are two main limitations to the analysis. First, we do not explore to what extent the animal health requirements affect the export decision, even though related studies have assessed that compliance with domestic regulations and import requirements affects the cost structure of firms in the industry. Second, we leave aside the history of strong protection and regulation in global trade in animal products, meat and dairy in particular. The paper examines the impact of nontariff measures on exports by looking at the certification of products to veterinary standards, but ignores that the impact of regulatory barriers in the market is determined in relation to the other restrictive measures such as tariffs and quotas. It is clear that under the extensive tariff and quota policies currently governing market access in major markets for animal products, improvements in the ability to export may effectively not result in improved market access. Future work is required to ascertain to what extent regulatory barriers complement or substitute the traditional barriers in trade of animal products. By implication, the paper may serve a purpose of mapping regulatory barriers, but it will leave aside the issue of the legitimacy of measures.

2 The role of export certificates in the trade of animal products

2.1 Introduction

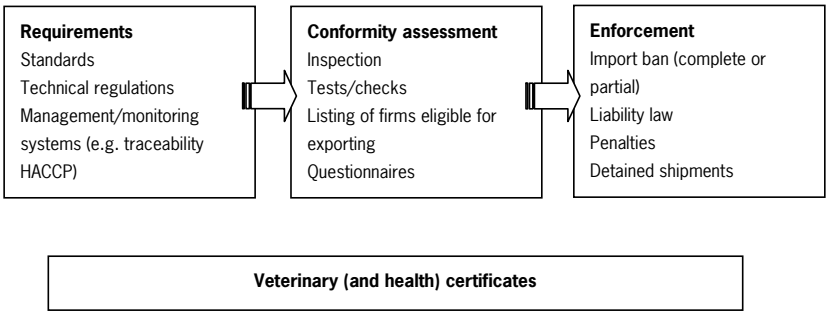
Animal products such as meat, dairy, fish and related products and live animals are considered high-risk goods in production, consumption and trade. The risks, or perceived risks, are associated with the health status of the herd as well as the handling and the processing of raw products into consumer products which, if left unaddressed, may pose threats to food safety and animal health. In technical terms, exports and imports of animal products are a potential pathway for spreading infectious animal diseases and consumer health hazards.

This makes the possible transfer of risk and the information regarding the prevention of risk two dimensions of the international trade of agricultural and food products that are subject to intense regulation. From this perspective, exporting or importing involves exchanges in at least four dimensions: the risk, information on risk prevention, goods and financial resources (Achterbosch, 2007b).

The regulatory framework to control food safety and health issues in trade can generally be divided into the main elements of requirements, conformity assessment and enforcement. Figure 1 gives examples of the three elements of the regulatory system. Requirements are generally in divided into product standards and process standards. The procedures for verification that requirements are met are captured under conformity assessment. Test and inspections are the main elements. There are various instruments to enforce compliance with the requirements, from positive incentives to punitive sanctions.

One instrument commonly applied by risk regulators in global food trade, covering elements of requirements, conformity assessment and enforcement is the veterinary or sanitary export certificate. The OIE Terrestrial Health Code defines the international veterinary certificate as a certificate describing the animal health and/or public health requirements which are fulfilled by the exported commodities (OIE, 2008). These certificates therefore represent official attestations of the integrity of shipped products with regard to consumer and animal health. This section follows the regulatory framework presented in Figure 1 in order to elaborate on the roles of export certificates in the international trade of animal products.

Figure 2.1 Regulatory framework for food safety and export certificates



2.2 Control of food safety and animal health

In international trade, animal products have to be accompanied by official certificates that attest that products comply with the mandatory requirements for food safety and animal health. The set of animal products covers live animals, meat and dairy products, eggs, slaughter by-products (food and non-food), embryos and semen and feed. The set includes all raw products and to some extent the products that have undergone some processing, but there is no clear demarcation line.[1]

The conditions for certification can reflect the requirements of the importing country, the exporting country, or both. Content and format of certificates is specified by the authorities in the importing country. Export certificates are issued by the 'competent' authority in the exporting country, generally the chief veterinary officer (CVO). This is the veterinarian authorised to perform certain designated official tasks associated with animal health and/or public health and inspections of commodities and, when appropriate, to certify in conformity with the provisions of the guidelines for animal health control of the OIE (OIE, 2008).

By signing off on certificates, the exporting country's CVO assumes responsibility for the claims made in the certificates - to the importer. Therefore, the

[1] The official prescription of what exported shipments must be accompanied by health certificates is done by the Food and Consumer Product Safety Authority (VWA), and differs also across importing trade partners. This is done on the basis of various EC legislations, most important guideline 96/93/EC on the certification of animals and animal products, and regulation 178/2002, better known as the General Food Law.

governmental stamp supplies the certificate with the necessary trustworthiness. If the exporting authorities cannot endorse the complete language on the certificate, a declaration of conformity is withheld, implying that the goods are not cleared for freighting to the export destination. Thus the export certificates specify a set of standards to comply with; they provide the means to convey compliance and leads for the enforcement of underlying regulations. As such, certificates are a critical instrument for the importing country to manage potential risks to human or animal health.[1]

Requirements

A veterinary export certificate covers a series of declarations on specific elements of animal disease control and food safety control. The requirements specified in the certificate language refer to three major categories: the (history of) the status of animal diseases on the farm including the control measures; safety and quality aspects of the products and the processing methods; the declaration of end-use. Regarding disease status, export certificates stipulate that the exporting country must be free of certain infectious diseases, such as the foot and mouth disease, Rinderpest or BSE for example, that are not endemic in the importing country. This makes export certificates specific to pairs of trading partners, and exporters may have to qualify for several different export certificates according to their export destinations. Export certificates refer to both product and process standards, including management and monitoring systems along the entire food supply chain that are increasingly implemented and aim at reducing the probability that the production and consumption of products result in hazard for humans, animal and plant health. Food regulation is often specific to products, i.e. different regulations apply to meat than milk products apart from a set of common regulations.[2] Furthermore, regulation often differentiates according to the end-use of the product, most commonly between products that are destined for human consumption (directly or after further processing), products that enter the animal feed chain and products not for consumption.

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[1] It should be noted, however, that importers also use other instruments than the export certificate to diffuse their animal disease requirements among their trade partners. The participation in standard-setting under international organisations can be interpreted from this perspective.

[2] While regulation differs widely across animal products, a complaint voiced by dairy export firms is that the orientation of food regulation of animal products is biased towards meat products. In some areas, for example in the area of traceability, this is the cause of compliance problems for the dairy firms.

Conformity assessment
is the provision of guarantees that the processes of hazard monitoring and control in the export firm and exporting country are at least equivalent to those demanded by the importing country. Conformity assessment verifies compliance with respective food safety and health requirements. In order to obtain the necessary export certificate, firms who wish to export may have to undergo additional tests if the requirements of the importing county are different from those in the exporting country. The governmental veterinary service in the exporting country or other competent authorities, sometimes involving approved third party conformity assessment, conduct the necessary tests and subsequently issue export certificates on consignments of compliant products. Alternatively, firms may be approved for exporting, and receive general export licenses via certification or pre-listing. While both export certificates and licenses mean costs for exporters, obtaining export certificates seems to be more expensive due to the batch-wise system. A recent trend has been the use of questionnaires, which essentially request the competent authority in the exporting country to document the organisation of food safety and/or animal health control. The requests refer to one or more sectors in particular or to the entire livestock industry. The questionnaires entail an element of subjectivity into the conformity assessment process because their use and scope are not subject to any international guidelines or recommendations. Whereas a fair amount of subjectivity is not new to this area - consider the political profile of trade disputes and the value that lies in historical ties between regulators - the use of questionnaires should be seen as part and parcel of a trend to formalize the trust and subjectivity in the cooperation between the regulators in trade partner countries. It has certainly brought more bureaucracy into the conformity assessment process.

Enforcement
Enforcement sense involves the use of partial or complete import bans, liability law and mechanisms of reputation.

Most importing countries specify (positive or negative) lists of products that are eligible for importing from the EU and/or the Netherlands and detailed instructions on the prevailing conditions. By implication, import bans are prolific in the global market for animal products. Import bans will generally be specified in relation to an ongoing or recent disease outbreak. A complete ban will deny market access to a type of product, such as pork or milk powder. Under a partial ban, a product is eligible for importing only after certain mandatory treatments to the product that effectively reduce its marketing opportunities. For example, a mandatory heat treatment for pork, to control contamination of vi-

ruses and bacteria, effectively reduces the trade opportunities to cooked meat only, thus acting as an import ban for fresh pork.

Possibly, the use of full or partial import bans extends to situations where there is a lack of recognition of the animal disease control system in the Netherlands on behalf of the importer. There are occurrences of sector-wide bans during a negotiation process for market opening. For example, importers that have issued questionnaires on animal health control will incidentally impose a temporary ban on imports during the completion and discussion phase.

At the border, the importing country has three mechanisms for enforcing that shipments indeed meet its legal requirements: through checks of administrative conformity and inspection of the end-product. The administrative check is generally based on routine document at the border, sometimes in combination with a system of prior approval of handlers, so-called 'pre-listing' of firms eligible to export.

Officials in the exporting country usually sign the export certificates, and thus assume the responsibility for the claims of compliance made. For the importing country, the governmental stamp supplies the certificate with the necessary trustworthiness and signals the integrity of the foreign product. Export certificates thus enable trust between both the respective governmental authorities and firms in the exporting and importing country, thereby facilitating trade. In comparison to other food safety and health control measures applied in international trade, export certificates may also be trade promoting since they bundle the information necessary for controlled imports. Based on negotiations between country pairs, they on the one hand involve two-way information flows and reduce transaction costs for governments in both the importing and exporting country. On the other hand, export certificates also lead to lower transaction costs of firms that wish to export and do not separately have to proof compliance with import requirements.

At the level of border inspection, compliance with the legal import requirements in the veterinary export certificate occurs is enforced by means of the importer's decision to issue or withhold approval for clearance. Shipments of non-compliant products are detained by the authorities. The possible reasons of the official veterinarian to detain are manifold. A shipment is not cleared if it comes with inconsistent shipping documents and traceability or labelling errors. The veterinary certificate needs to pass an administrative check. Products may also be rejected on the basis of a failing physical or laboratory test.

2.3 Veterinary certification in relation to trade

The present reports examines but one instrument in the entire range of nontariff measures. An export certificate operates as a license to export. Its operation differs, however, from the widespread use of licensing as a nontariff barrier in trade. Standard licensing practice in meat trade is to allocate (via auctions, tenders or other mechanisms) a certain volume in tonnes to import meat products into a market. This quota system now exists only in many agreements on bilateral trade between regions. In general the quota have been replaced by tariff rate quota (TRQ), which is a two-tier allocation system for imports that comprises an in-quota volume levied import duty A and an out-of-quota volume levied a higher duty B. The quintessence of these licensing systems lies in limiting the total *volume* of imports by specifying a maximum volume of import under a quota, or by introducing a progressive tax dis-incentive to import under a TRQ. In contrast, the main mechanism of the export certificate is to restrict the *quality* of imports to only those products that meet the veterinary standards, regulations and import conditions.

The veterinary quality requirements potentially have the effect of reducing import competition. Where the issuing of licenses becomes subject to considerations regarding a country's openness to imports, domestic industries may be supported by imposing license criteria that are difficult to meet by some or all potential exporters. The license criteria can, as has been described, be requirements in the areas of standards and regulations, conformity assessment or enforcement. The unjustified use of veterinary measures may imply an 'overprotection' against risks, a concept tossed by Josling, Roberts and Orden (2004) and defined as a situation where a relaxation of legislation yield net welfare gains.

Trade rules under the World Trade Agreement (WTO) provide the checks and balances on the import requirements of its membership. According to the WTO trade rules, import requirements are not to exceed domestic requirements. The requirements for veterinary certification are mainly determined by the importing country, and thus reflect the domestic requirements of the importing country. However, importing countries can impose further reaching and different food safety and health standards under the agreement on Sanitary and Phytosanitary (SPS) Measures, and impose these as requirements for export certification. Based on scientific information and international agreement, the World Organisation for Animal health (OIE) provides guidelines for devising export certificates for animal products. The OIE's Terrestrial Animal Health Code, for example, recommends procedures to prepare, formulate and implement veterinary and

health certificates required for exporting (OIE, 2008). The OIE also provides templates of model certificates for different types of animal products that trading partners can adapted to their specific agreement on requirements.

Although membership to the World Trade Organisation is commonplace and the WTO's SPS Agreement provides restrictions to the unjustified use of requirements that impede trade, the legal checks and balances on the unjustified use of measures feature practical limitations. Exporting firms in the dairy sector have given a number of reasons for this (Buck, 2004; Achterbosch, 2007). The standards published by the OIE are guidelines, and country-specific implementation of, or deviation from, the guidelines is justified on scientific grounds and trade law. Due to the generic quality of guidelines, the technical implementation of a guideline may result, effectively, in a variation of import conditions across countries. The legal procedures for assessing the justification consume lots of resources in terms of time and money. The long time span corresponds poorly to the day-to-day business of agrifood producers. In addition, exporting firms caught up in a dispute over import requirements make little use of the available opportunities for short-term mediation on scientific argumentation, a facilitation provided by the OIE.

2.4 Veterinary export certification in the Netherlands

Organisation of certification

In the Netherlands, the Food and Consumer Product Safety Authority (VWA) issues most of the export certificates. [1] VWA, an agency under the Ministry of Agriculture, Nature and Food Quality (LNV), has also delegated its mandate to a few sectoral agencies, of which COKZ, the organisation for quality assurance in the dairy industry, is most important. An export certificate is issued on the basis of an inspection of the exportable goods and related documentation by a veterinarian of the VWA or the delegated agency.[2] The veterinarian does the final assessment whether the products match the codes, numbers and descriptions mentioned in the text of the veterinary certificate. The public and private sector

[1] This section is based on material from the website of VWA (www.vwa.nl) under the heading Import en Export.

[2] This is referred to as the DOM inspection, taking its name from the Dutch acronyms for documents (documenten), matching (overeenstemming, does the paperwork relate to the consignment), and physical inspection (materiële inspectie).

are organized in various structures that aim to support the process of veterinary export certification (Figure 2).

The chief veterinary officer (CVO) bears the final responsibility for veterinary inspections upon import and export of animals and animal products. He maintains liaisons with veterinary services in other countries and with the directorate of Safety and Consumer Protection (SANCO) of the European Commission for the negotiation of binding veterinary agreements and solution to trade obstacles. The inspections upon export and import are performed by veterinarians and inspectors of the Food and Consumer Product Authority (VWA). VWA also manages the process of issuing veterinary export certificates. Veterinarians and inspectors of VWA implement the veterinary tests and inspections upon export and import.

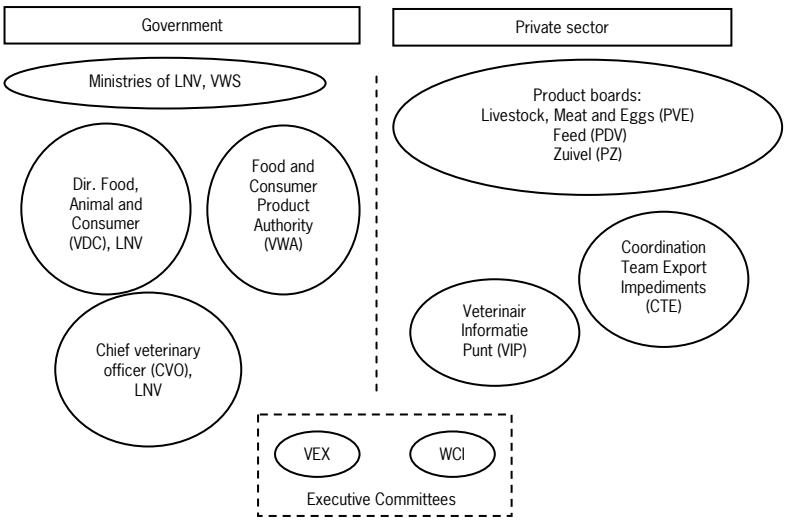
The CVO maintains liaises on a continuous basis with the livestock industries, often via the Veterinary Information Point (VIP), which is an executive committee operating on behalf of several livestock-based industries. In the committee, the dairy, feed, livestock, meat, by-products, eggs and breeding material industries are represented by the product boards for Livestock, Meat and Eggs (PVE), Feed (PDV) and dairy (PZ). VIP addresses veterinary problems based on the priorities set by coordination team export barriers (CTE).

A working group certificates and instructions (WCI) develops all new or revised veterinary certificates that operate under binding agreements with the Dutch trade partners. Its procedure for new or revised certificates is to compare the requirements of the importer to the requirements imposed by the Netherlands and EU. VIP contributed information with regard to the feasibility and desirability of certain health attestations from the perspective of the export industries. The combined legal, veterinary and exporter perspectives develop into a position for negotiations between LNV and the trade partner country on the binding certificate. After agreement in the negotiation, WCI prepares an instruction for exporters and veterinarians that explains the interpretation of the specific attestations for the production, testing and inspection.

The strategy group for veterinary export certification (VEX) is a forum of business and government representatives that meets bi-weekly to discuss current regulatory barriers or threats of upcoming barriers related to animal health status and veterinary export certification. VEX decides on the appropriate type of response, which often involves elements of negotiation, compliance and adjustment, or a wait-and-see attitude. VEX may pass on a matter to the werkgroep certificaten en instructies (WCI), an executive group of representatives that are responsible for drafting or revising texts of veterinary export certificates. By and large, VEX signals problems caused by veterinary certification

and WCI delivers solutions where these lie in a revision of the certificates or the instructions to exporting firms for meeting the requirements in the export certificate.

Figure 2.2 **Organisations in government and private sector that address veterinary export certification and related obstacles in trade**



Sources: PVE (2006), website VWA.

Types of certificates

Export certificates are commonly issued in paper with stamps and watermarks to prevent counterfeits.[1] The VWA issues three distinct types of certificates, depending on the destination and the frequency of a trade.[2]

[1] The Dutch government and exporting sectors are currently preparing the introduction of an electronic certificate in the project CLIENT. An electronic certificate would reduce some of the transaction costs of the certification process by improving the flow of information and the cooperation between the firm and various government agencies involved.

[2] Veterinary and health certificates are not only used to convey mandatory requirements. They may contain specifications that are an element of negotiation between exporter and overseas buyer, which gives the certificate a commercial function. Due to a shortage of information on this phenomenon, which often has a commercial interest, we will not explore this further.

- *Certificates for intra-EU traffic*
  The standards and regulations on food safety, animal health and animal welfare for most animal products are harmonized in the EU. By implication, exportable animals and goods that comply with the domestic regulation are suitable for exports. The VWA issues a standard, pre-printed certificate for live animals or, if necessary, other products. For fish, eggs, meat and meat products an export certificate is not required; a trading document of the exporting firm is sufficient.
- *Binding certificates*
  For a selected set of major trade flows, the certificate and accompanying instructions for compliance have been subject to negotiation between the governments of the Netherlands and the export destination. Where these have led to agreements between the chief veterinary officers (CVO), the main veterinary representative of both countries, a set of compulsory import conditions in the area of food safety, animal welfare and animal health prevails. Because all exporting firms must adhere to the same requirements - and the text of the certificate is therefore 'binding' - the VWA issues a standard, pre-printed certificate for these trade flows. The actual text for the binding certificate is produced, on the basis of the agreements between CVOs, by a working group on certificates and instructions (WCI). In WCI the government (LNV, VWA) and the private sector are represented.
- *Request certificates*
  Should a trade not be covered by an agreement of CVOs, then the exporting firm must request VWA to issue a custom-made certificate. The exporting firm then submits a concept certificate text to the VWA, which checks it on consistency with Dutch and EU regulations, before passing it to a veterinary officer for the final inspection.

Across the board, there is a trend towards an increasing reliance on binding agreements. Experts relate this to the increasing pressure on disease control in the face of animal disease outbreaks and food safety scares, and also the increasing stringency of standards in emerging markets. At the same time it is not uncommon to see that a binding agreement is abandoned when more flexibility is required. In that respect the request certificate is sometimes used as a 'default' instrument to keep trade going. All in all, there can be many reasons behind a regime change from binding to request certificate or the other way around, and a full discussion goes far beyond the scope of this text. What is relevant, however, is that the initiative to negotiate a regime change can lie with the exporting firm or with government in the exporting or importing county.

Whether binding or request certificates are commonly used in trade depends on the sector, therefore, and the use also changes over time. Experts indicate that, at present, about 50% of trade in livestock, meat and slaughter products is covered under a binding agreement. In exports of milk products, request certificates are much more common, covering up to 80% of trade. Chapter 4 examines this in detail, and discusses the possible interaction between exports under binding agreements and request certification.

Generally the process of getting a veterinary export certificate for a current, repetitive transaction takes 1 or 2 work days, from the first notification of intent to the delivery of the official documents. For a novel or uncommon trade flow, the process may consume up to two weeks. The costs for the export certificate are charged on the exporting firm according to fixed pre-listed rates per consignment. By way of example, one of the most commonly issued export certificates by VWA is reproduced in Appendix 1.

2.5 Conclusion

The veterinary export certificate is an extremely comprehensive instrument to regulate risks related to animal disease transmission in global food trade, which encompasses all elements of the regulatory framework: the requirements in the form of standards and regulations; the verification procedures under conformity assessment, and the enforcement by operating as a potentially trade-restricting measure. Comparing the functioning of export certification in the market to more traditional licensing instruments such as quota, it is argued that both instruments have the potential effect of reducing import competition. Global trade rules provide checks and balances on the legitimate import condition, albeit with practical limitations. Veterinary export certification in the Netherlands is a continuous process of responding to ever-changing import requirements, domestic rules and animal health conditions. The chief veterinary officer (CVO) is supported by close public-private cooperation in the efforts to gain and maintain access to relevant export markets.

3 Trade obstacles and threats related to veterinary export certification

3.1 Introduction

This chapter examines what trade obstacles and export threats related to veterinary export certificates have been addressed by the strategy group for veterinary export impediments (VEX) and working group for certificates and instructions (WCI). The activities of VEX and WCI are documented in various ways. We explore the records of both committees and describe the regulatory barriers encountered in exports of animal products that have been the subject of work.

For the purpose of this study we have analyzed and combined the information from several sources. The scope of the data analysis was restricted to the records of VEX and WCI to up to 2006 and before. Three years of VEX data were analyzed, i.e. from 2004 when record-keeping in its present format started to 2006. The analysis covers 5 years of WCI-data, i.e. for the years 2002 to 2006. Annual reports of Veterinary Information Point (VIP) provided valuable additional information. Finally, trade statistics were used in a time-series of 1988 to 2007 for EU exports and 1995 to 2007 for global exports.

3.2 Barriers addressed by the strategy group for Veterinary Export impediments (VEX)

The strategy group meets at least every two weeks to set the veterinary priorities for the Ministry of Agriculture, nature and food quality (LNV). Once a month, VEX discusses possible and factual trade impediments related to veterinary regulations on the basis of a list. The meeting sets priorities for action on the various dossiers, and monitors progress. VEX addresses only the subset of regulatory barriers that relate to the certification under a binding veterinary agreement, or the 'binding certificates'; normally, the group does not discuss problems with the 'request certificates' and, with some exceptions, they are not reflected in the list. We explore this sample bias in chapter 4.

The list is maintained in the form of a spreadsheet that is updated for every bi-weekly meeting. The sheets operate both as a record of past action, and as

an agenda for future action. The data consist of the complete set of 55 updated worksheets of VEX for the years 2004-06.[1] Each element of the dataset is described in turn.

- *Country*
  Listed is the export destination country, which is always a country outside the European Union. When exporting export to EU member states certification is normally required only for live animals and not for animal products. One recent exception where VEX addressed veterinary impediments in intra-EU exports was during the recent outbreak of bluetongue when EU members restricted imports of live animals from Netherlands.
- *Priority*
  Possible categories are: high, middle, low, undetermined. An indication by the VIP service of the urgency to arrive at a solution on the basis of the interests of the industry. Not based on criteria, and not given much weight in the interpretation and use of the list.
- *Start*
  Indicates the date (day-month-year) when a new barrier or problem was notified to VEX, often by the VIP service of PVE. May also refer to the date when an existing problem that had been stalled for some time re-entered the list with a renewed priority for action. Earliest date recorded in the dataset is 10 February 2004, which refers to the meeting when the spreadsheet in its current format was introduced in VEX. The history of VEX goes further back, however, and so do regulatory barriers in trade; the problems that existed before this date also carry the date of 10 February 2004. The latest date recorded in the dataset is 28 November 2006. End dates of problems are not recorded (see below).
- *Products*
  Listed is the product affected by the barrier or regulatory problem, which is often more than one product and is not based on a consistent product classification. Also includes records such as general or animal products, to indicate regulatory problems that affect exports of animal products across the board.[2]

[1] The data was kindly made available by Mr J. Porte of LNV.

[2] The lack of structure makes it difficult to match with HS classification or other consistent categorisation of products. For example, for the customs purpose that drives the design of the HS code, a distinction between a frozen and fresh (chilled) product is relevant. From the veterinary perspective,

- *Problem*
  A summary of the measure that creates a regulatory problem and/or trade barrier by the responsible I&H official. Not based on any classification or criteria. The description of the problem is one of the elements in the spreadsheet that is adjusted over time in order to reflect progress or changes in the state of affairs. This severely complicates the opportunity to trace the evolution of cases over time, whether in an automated process or by hand.
- *Action*
  Contains either an action to be taken and a date to schedule the action or the next round of discussion on the topic.
- *Whom?*
  Names the person or official responsible for a follow-up by the next meeting. Officials sort the sheet on their name to reproduce their work agenda. May also list institutions such as WCI for passing an issue on to the working group on certificates; sector organisations (VIP, COKZ, PZ or ZIP, the dairy information point); and government officials (CVO, VWA, agricultural representatives on embassies, DG SANCO of the European Commission, et cetera).
- *Date*
  Gives the date for the next VEX meeting where the issue is discussed, or a label PM (for pro memori) for problems without solutions under current conditions. PM cases are shelved until opportunities for a solution arise.
- *State of affairs*
  A continuously updated description of the state of affairs.

The following steps were taken in preparing the data for analysis:

1. We merged the spreadsheets into a database format in MS Access. Using automated queries, we compiled a list of 269 different combinations of product, export destination country, problem with start and end date. End dates are not given in the spreadsheets; when a problem has ended or a case has been closed, it simply disappears from the updated list for the following meeting. Automated queries have generated the end date of combinations of product, export destination country, and problem as the latest date that the combination is recorded in the list. No end dates have been given to problems that were ongoing by the end of the dataset;

frozen and fresh products are equivalent in terms of possible contamination, and the relevant distinction is between fresh or frozen on the one hand and heated or irradiated on the other.

2. From this list, 166 separate 'cases' were identified on the basis of the following definition; a case is defined as a unique combination of product group, trade partner (non-EU) and problem. Hundred combinations were merged with one of the separate cases if their product, problem description and time frame overlapped. Three combinations were discarded from the data because of the lack of specificity in problems and products descriptions. Due to the inconsistent use of labels for problems and problems over time, as cases evolve, the identification of a case was somewhat arbitrary;[1]
3. Four panels were defined on the basis of criteria for the start date and end date. Panel 1 are cases that existed at the beginning of the dataset in 2004 and have not reached a solution by end of 2006. Panel 2 are the cases that started after the beginning of the dataset and have not reached a solution. Panel 3 are cases that existed at the beginning of the dataset and have not reached a solution. The last panel are the cases that started after 2004 and ended before end of 2006. The duration of cases in panel 1 is set at the maximum of 34 months. For cases in panel 4, the duration of the problems in terms of days was computed from the end date and start date.

Below we give an overview of the set of cases by country, product group and type of problem. Appendix A provides an extract from the full dataset.

3.2.1 Cases by export destination country

Between 2004 and 2006 VEX addressed 166 cases that related to a total of 54 export destination countries. As Table 3.1 indicates, one-fifth of all VEX cases related to Russia (19 cases) and China (14 cases). Another one-third of cases related to a group of ten destination countries that include Australia, US, Japan and Algeria. Hence, VEX has focused for more than half of its activities over the years 2004-06 on a selected set of 12 trade partners.

Russia is a major importer of animal products from the Netherlands. In recent years Russia is the Netherlands' first export destination, absorbing 10% of all exports of animal products (excluding intra-EU exports) in 2006-07.
In addition, the portfolio of animal products exported to Russia covers almost the entire range of export products. These factors provide one part of the explanation for the representation of the country in the dataset. Also relevant is

[1] While maximum care was given to rearranging the data, erroneous grouping or separation of cases cannot be ruled out. A review by a specialist is an option to improve the data.

that the accession of the eastern European countries to the EU, which gave Russia several new borders with the EU, gave rise to several re-negotiations on veterinary requirements for products from the (enlarged) EU.

The 19 cases that involved Russia have addressed problems relating to dairy for human consumption and for use in feed; proteins and gelatines; veal and offal; cattle, horses and swine for breeding; hatched chicks and hatching eggs; (fish) feed, pet food and fish oil. 11 cases have been resolved and 8 have not come to a solution before end-2006. The single most long-lasting case concerns animal feed from plant-based material. Already before 2004 - the exact timing is unclear - a problem arose so the veterinary authorities could not issue a certificate for export products due to incompatible veterinary regulations between the two countries. This had the direct effect that imports were not allowed into Russia. By July 2005 export certification was allowed.[1]

Other prime importers of animal products from the Netherlands, apart from Russia, are the US (7% of exports excluding intra-EU exports), Nigeria (6%), Japan (6%) and Switzerland (5.5%). China is ranked as the 6th export destination, after Saudi Arabia, absorbing 4.3% of exports. Comparing the ranking of export volumes and the numbers of VEX cases (6 for the US and Japan, 14 cases involving China), China appears over-represented in the dataset. But while the US and Japanese market are more or less saturated, the exports to China have been expanding rapidly over the past years. From this perspective, the cases would involve efforts to open up the Chinese market and numbers. The euro value of animal exports to China doubled between 1992 and 2002 and again between 2002 and 2007. Under normal conditions one would expect the numbers of regulatory problems involving China to come down as the trade relations with the Netherlands/EU evolve. So far, however, the cases involving China generally have been difficult to solve; 12 out of 14 cases were unsolved by end-2006 and the two cases that came to a solution lasted about 1.5 to 2 years. Time will tell whether more regulatory problems will be solved over time.

[1] VEX case no. 28.

Table 3.1	VEX cases by export destination country			
No. of cases per country	**Sets of countries**	**No. of countries**	**No. of cases per set**	**Share of cases (%)**
11-20	China (14), Russia (19)	2	33	19.9
6-10	Algeria (6), US (6), Japan (7), Australia (8)	4	27	16.3
5	Chile, Egypt, Taiwan, Turkey, South Africa, South Korea	6	30	18.1
4	Canada, Ukraine, Singapore	3	12	7.2
3	Brazil, Indonesia, Jordan, Lithuania, Mexico, Peru, Tunisia	7	21	12.7
2	Israel, Jamaica, Malaysia, Morocco, Moldova, Poland a), Saudi Arabia, Syria, Thailand, Vietnam, Belarus	11	22	13.3
1	Bangladesh, Bolivia, Bulgaria, CARICOM countries, Cuba, El Salvador, Philippines, Ghana, Hong Kong (China), Iran, Kenya, Kuwait, Latvia a), New Caledonia, Nigeria, New Zealand, Panama, Serbia, Slovenia a), Slovakia, Sri Lanka	21	21	12.7
	Total	54	166	100.0

a) Cases registered in the months before accession to the EU in May 2004. Accession generally solved the problems at hand.
Source: database of VEX records.

3.2.2 Cases by product group

The distribution of cases across products reveals large differences across products (Table 3.2). One-third of VEX cases related to live animals and live products such as embryos, semen, hatching eggs and hatched chicks. Another one-third of cases related to meat products including bovine and poultry meat, meat of swine and offal (and other by-products from slaughter). The share of cases that related to milk and dairy products was less than 4%, or 7% if dairy-based ingredients for the food and feed industry are included. Certificate requirements will generally differ between milk products for human consumption and milk products not for human consumption. The latter category often refers

to milk-based feed mixtures. About 11% of VEX cases has addressed feed products.

The large number of cases on live animals and products is striking given that these products contribute less than 5% in total exports to non-EU countries (150m euro per annum). The most likely explanation is that live animals and products are subject to very stringent requirements as a result of the high-risk nature of the product. Generally, the live animals and products are imported from Netherlands into the non-EU countries for breeding purposes. This renders the international trade in live animals, semen and embryos a particularly probable pathway to spread infectious diseases from an inflicted herd to a herd that is free of a disease. Importers have sought to control this risk with various measures, which VEX has subsequently addressed. For example, when Algeria imposed a 28-day quarantine period for breeding cattle in July 2006, VEX negotiated for a 21-day quarantine period.[1] Another example of a measure has been the requirement by Australia that imports are conditional on a risk assessment by its veterinary import service, which has so far not been undertaken.[2] A third example is the protocol that China imposed before it allowed imports of bovine semen from the Netherlands. The protocol involved an inspection of facilities in the Netherlands and negotiations through various high-level meetings on the requirements.[3]

The very limited number of cases on milk and dairy products despite their dominance in animal exports from the Netherlands signals that the dairy sector largely solves its regulatory problems outside the VEX committee. Given the overriding use of request certificates in milk and dairy exports, dairy export firms may solve their problems through other channels. Thereby they make use of the services of the dairy information point (ZIP) under the product board for dairy (PZ), the Dutch dairy organisation (NZO) and the agricultural representatives at the embassies of the Netherlands.

[1] By end-2006, the case was not resolved (VEX case no. 112).

[2] VEX has applied since 2001 for a risk assessment to be undertaken for hatched chicks, but by end-2006, this has not materialized (VEX case no. 33).

[3] After 18 months of activities by VEX, China allowed imports from The Netherlands (VEX case no. 118). A long-standing request for a similar protocol on bovine embryos also got closer to materialisation towards the end of 2006 (VEX case no. 105).

Table 3.2	VEX cases by product group a)		
Product code (HS2)	**Product group**	**No. of cases**	**Share of cases (%)**
HS 01	Live animals	29	15.4
HS 02	Meat bovine	24	12.8
HS 02	Meat of swine	24	12.8
HS 02	Meat poultry	16	8.5
HS 02	Offal	5	2.7
HS 03	Fish products	4	2.1
HS 04	Dairy	7	3.7
HS 04	Eggs and egg products	3	1.6
HS 05	Live products	34	18.1
HS 23	Feed	21	11.2
HS 35	Ingredients (casein, protein, gelatine, et cetera)	6	3.2
-	'Animal products'	8	4.3
-	'Other/unknown'	10	5.3
-	Total	188	100.0

a) Cases may appear twice if more than one product is covered.
Source: database of VEX records, author's grouping.

3.2.3 Cases by type of problem: conformity failure and recognition failure

There are several ways for structuring the diverse set of problems addressed by VEX. Since we aim to understand how export certification may give rise to nontariff barriers, we structure the datasets according to two possible causes. First, cases may address the failure of exported products to comply with the importer's requirements. This is referred to as a problem of conformity failure. Second, VEX cases may deal with cases where the products comply but the necessary verification of compliance needs to be organized. These problems are referred to as recognition failures.

Conformity failures are trade-impediments caused by the failure to comply with import requirements on products and productions processes. These include all temporary measures that relate to animal disease outbreaks; certificate language ('statements') that cannot be endorsed by official veterinarians; restrictions on end-uses or product ingredients; geographical restrictions, et cetera.

In cases of *recognition failure*, the products and processes in the export industry are complying with the veterinary requirements but there is a lack of recognition on the standard of veterinary service in the exporting country, in this case, The Netherlands. This includes extended procedures to open or re-open export markets closed on account of veterinary restrictions (via protocols, negotiations, implementation of equivalence agreements, questionnaires on animal health control, et cetera); the cases related to the definition or re-definition of a veterinary export certificate; the cases regarding the registration of firms eligible for exporting; the problems in the area of conformity assessment such as inspection and testing. By listing all effort on opening of markets closed for export under recognition failures, it is assumed implicitly that the exported products and production processes are in principle compliant with the import requirements. As such, the efforts on market opening focus on the process of reaching agreement on the veterinary conditions of trade between trade partners. The presence of recognition failures in international trade explains how export firms that comply with the importer's regulations on product requirements and conformity assessment may still encounter impediments in trade.

The classification of compliance and recognition failure was performed using the NTM coding system for the new TRAINS database of UNCTAD (UNCTAD, 2007). This coding distinguishes sanitary and phytosanitary (SPS) measures as one of 16 main classes of nontariff measures. The class of SPS measures further breaks down into voluntary standards (A100), SPS regulations (A200), conformity assessment related to SPS (A300) and other SPS measures (A400). At the most detailed level, the class of SPS measures breaks down into over 120 measures.

In principle, all VEX cases deal with problems of export certification, and all cases that deal with export certification can be listed in the coding system under the main heading for conformity assessment related to SPS, i.e. 'Certification by government agencies of the countries of origin: Requirement to obtain certifications from the exporting country' (code A311).[1] The UNCTAD classification is of further use by providing the opportunity to differentiate between conformity failure and recognition failure as the cause of a problem in export

[1] A300 - Conformity assessment related to SPS (Control, inspection and approval procedure, including procedures for sampling, testing and inspection, evaluation, verification and assurance of conformity; and accreditation and approval). A310 - Certification requirements either in the exporting or importing country (Certification by government agencies of the countries of origin): Certification by government agencies of the countries of origin (Requirement to obtain certifications from the exporting country).

certification. We define a certification problem caused strictly by an SPS regulation (A200) as a conformity failure. A certification problem caused by conformity assessment (CA) issues (A300) is defined as a recognition failure.

The most frequent SPS regulations in the dataset (n=61) concerns disease prevention measures on an ad hoc basis. These regulations generally refer to restrictions relating to BSE. Other SPS regulations are found infrequently, such as a quarantine measure (n=2) or hygiene requirements (n=4). The most frequent conformity assessment measure (n=59) is 'lack of recognition: certifications issued by a country or authority are not recognized by the importing country'. It is used for our purpose as a bulk group for a wide range of measures that create trade frictions, including a risk assessment requirement, market opening by means of a new certificate, questionnaires and animal health status and control, negotiations on novel certificates, et cetera. Another frequent CA measure is certification by government agencies of the countries of origin, which has been used for cases that involved changes to an existing veterinary certificate (n=32). These cases typically do not involve market opening but rather aim to maintain existing export opportunities.

Incidence of conformity and/or recognition failure

VEX dealt with conformity failure in over 45% of cases addresses in 2004-06 (Table 3.3). The strategy group mainly worked towards the removal of restrictions relating to BSE and, to a much lesser extent, avian influenza. In accordance with UNCTAD, many of the measures imposed by importers that lead to conformity failure are of a temporary and ad hoc nature, but BSE-related measures tend to be among the most resilient (see text box for more detail on restrictions after disease outbreaks). It is thus likely that the entire list of cases of conformity failure did relate to *actual* trade impediments and restrictions. The cases of conformity failure include most of the Netherlands' main export destinations. As the 2001 BSE outbreak has affected the industry across the board, the scope of products affected is also wide. It is expected, therefore, that the impact of trade over these years has been substantial. Box 1 discusses the ad hoc measures following animal disease outbreaks that restrict Dutch exports up to early 2009.

In more than 60% of cases, VEX addressed an element of recognition failure. In view of the discussion above it comes to no surprise that cases involving Russia and China are well-represented in this category. One in four recognition failures dealt with market opening towards China and a renegotiation of veterinary agreements with Russia after accession of the Eastern European countries,

which led to new binding certificates. The impact of a recognition failure on trade differs along with the situation at hand.

First, dozens of cases of recognition failure result from aims to open up markets by veterinary cooperation. Here the veterinary requirements operate as a prohibitive measure in trade, and trade foregone is the measure for the concurred export losses. Solving such failures clearly expands the volume of the potential export market. Second, recognition failure may address a conversion of a request certificate to a binding agreement, or vice versa. There clearly is a trend towards more binding agreements, and Russia has been the leading destination partner in this development. Reverse movements are also recorded, however.[1] During such a rearrangement trade is often ongoing, although hampered to an extent by a veterinary arrangement that is not optimal. The trade impact before the conversion and the impact of a solution are likely to be limited.

In conclusion, the 166 VEX cases have been categorized in two types of failure; four out of ten cases involve conformity failure and six out of ten cases involve recognition failure. Conformity failures occur when veterinary certification is obstructed as the result of non-compliance of products or production processes with the veterinary regulations maintained by the importer. Commonly, the measures are ad hoc measures relating to disease outbreaks with a temporary nature - although, several measures imposed for the 2001 BSE outbreak have not been lifted by the present date. Conformity failure creates actual or potential export losses, and remedial action is aimed at keeping trade ongoing. In the case of recognition failure, the products and processes in the export industry are complying with the veterinary regulations but there is a lack of recognition on the standard of veterinary service in the exporting country. One of the main activities of VEX is to support the process of negotiation and exchange that leads importers to lift an import ban or other restricting measures. Where such efforts succeed, the volume of the potential export market for products from the Netherlands is clearly expanded.

[1] In one VEX case, exporters of bovine semen sought a dismissal of an existing binding veterinary agreement with Australia and a conversion towards request certification (VEX case no. 137), and in another stalling gelatin exports to Russia were facilitated by a stop to the binding agreement (VEX case no. 54)

Table 3.3	VEX cases by measure and type of failure a)				
Type of failure	**No. of cases**	**Share of cases (%)**	**Measures most frequently applied**	**Code**	**N**
Conformity failure	63	38.0	Disease prevention measures	A261	61
Recognition failure	91	54.8	Lack of recognition	A320	59
			Certification by government agencies of the countries of origin	A311	32
			Registration requirement	A350	6
Compliance and recognition failure	11	6.6	Disease prevention measures combined with Lack of recognition	A261/ A320	5
			Disease prevention measures combined with Certification by government agencies	A261/ A311	4
Not classified	1	0.6		na	1
Total	166	100.0			*168*

a) The classification of compliance and recognition failure was performed using the NTM coding system for the new TRAINS database of UNCTAD. Full description of measures according to UNCTAD (2007): A261 - Disease prevention measures: Restriction/prohibition in case of outbreak of infectious diseases. Measures to protect animals, humans and plants from any infectious/contagious diseases. Covers restrictions other than quarantine requirements. Measures included in this category are typically more of an ad-hoc and time-bound nature; A320 - Lack of recognition: certifications issued by a country or authority are not recognized by the importing country. A311 - Certification by government agencies of the countries of origin: Requirement to obtain certifications from the exporting country. A350 - Registration requirement. Importers may need to be registered in the importing country. It is often the case for sensitive products such as medicines and/drugs. Exporters need to contact a registered importer. Source: Database of VEX records, author's grouping based on UNCTAD (2007).

3.3 The Working group on Certificates and Instructions (WCI)

VEX may pass matters on to the working group on certificates and instructions (WCI), an executive group of representatives that are responsible for drafting or revising texts of veterinary export certificates. WCI drafts and advises VWA on the certificate texts or the instructions to exporting firms for meeting the requirements in the export certificate. If the task of VEX is to signal and prioritize problems veterinary certification for exports, then the mission of WCI is to deliver solutions.

WCI often drafts the certificate or instruction on the basis of a veterinary agreement with the trade partner at hand. The chief veterinary officers of the Netherlands and the trade partners will generally have negotiated a compromise between the domestic regulations and veterinary practices in their countries. One may characterize the prime task of WCI as finding practical solutions for compliance with given import requirements in a manner that is least disruptive of current industry practices and close to prevailing domestic regulations. As such, WCI facilitates the low-cost compliance of firms to the prevailing import requirements, which makes it a critical instrument for export promotion.

The records of WCI are kept in a spreadsheet and in annual reports by VIP of the product boards for meat, livestock and eggs (PVE). The spreadsheet, which is updated frequently, has been kept in its present format since 2001. In the years 2001-06, WCI has drafted new certificates and instructions for 300 combinations of product (group) and trade partner country (Table 3.4). As it is quite common that certificates are adjusted in time, WCI has performed multiple revisions of most certificates in the meantime.

The spreadsheet record of WCI contains data under the following labels: country, product, certificate and/or instruction, notification date, publication date and other remarks.

Table 3.4 WCI performance, 2001-06

	No. of observations per end-2006
New certificates published	152
New certificates under preparation	149
All	301

Source: WCI spreadsheet, 22 December 2006.

3.4 Conclusion

This chapter examines the records of VEX and WCI on nontariff barriers that have been addressed in the years 2004-06. In total, 166 problems have been addressed by VEX, mainly restrictions that occur in the aftermath of outbreaks of food and mouth disease (FMD) and mad cow disease (BSE) in the Netherlands in 2001. A second set of problems relates to a lack of equivalence of animal health control between the Netherlands and its trade partners. In terms of product coverage, VEX mainly addresses problems related to exports from the meat sector and live animals. Milk and dairy products, the main export products in

The Netherland, are under-represented in our dataset, thus limiting its value to indicate regulatory barriers in trade. The WCI, which has delivered advice on hundreds of certificate texts and instructions for compliance over the years 2002-06 is argued to be a critical and effective instrument for export promotion due to its close relations to the industry.

In the next chapter the options to use the VEX/WCI dataset for analyzing the trade impact of veterinary regulations as export barriers are assessed.

4 Data issues and Framework

4.1 Relevance of export certification

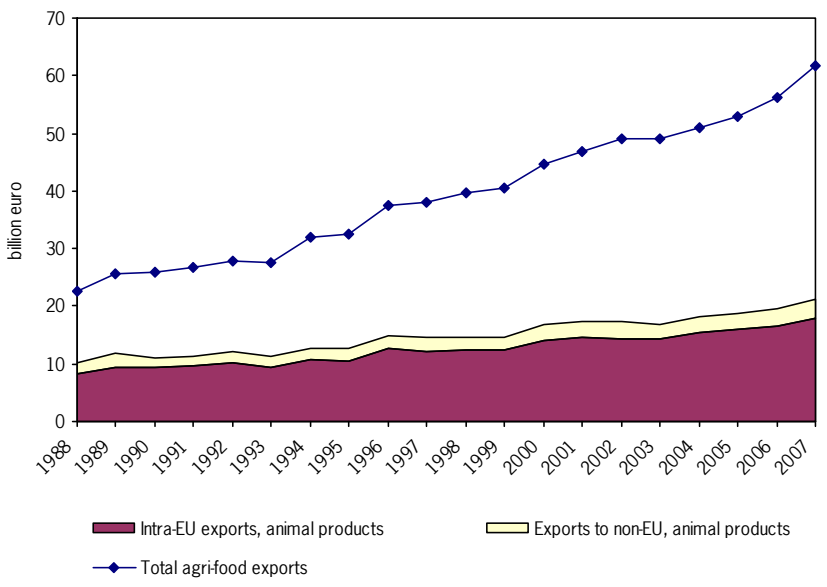
This chapter assesses to what extent the activities of VEX and WCI on nontariff barriers related to veterinary export certification have been a driving factor of exports of animal products. It describes the data limitations that have prevented a rigorous scientific analysis and provides several examples of possible further analysis. First, this section assesses the relevance of export certification for Dutch export performance

Trade barriers related to animal disease regulations are not common in intra-EU trade, and for most products no veterinary certificate is required. For the purpose of this paper we explore the impact of animal disease regulations on exports to non-EU countries only. The total volume of exports of animal products to non-EU countries reveals an upward trend but export growth is substantially lower than total agrifood trade (Figure 4.1). Over the last two decades 1988/89 to 2006/07 the exports of animal products have expanded at an annual average rate of around 3%, against around 5% for total agricultural trade. Exports of plant-based material and processed food has expanded more over the past decades. This has reduced the share of livestock products in total trade.

The volume of extra-EU exports (in euro) has expanded only moderately by 1.5% per annum over the past two decades, half of the growth rate of intra-EU exports. At present, a volume of 3.5b euro goes to non-EU destinations, which is about 15% of the total Dutch export volume of animal products. This value is equivalent to 6% of the total value of agrifood exports in the Netherlands. Thus, veterinary export certification is required for a substantial if declining portion of animal exports. A declining share of extra-EU markets in the Dutch export portfolio is observed for nearly all product groups over time, with the exception of feed ingredients (Appendix D provides more detail). It is unclear whether the increased orientation away from non-EU markets is related to the presence of NTMs in non-EU markets. Definitely, the demand pull for intra-EU trade has increased with the gradual expansion of the EU and reduction of regulatory barriers.

At the same time, the non-EU market provides important outlets for selected animal products. Profit margins in the livestock industries are generally low. In addition, preferences of consumers at home are different from foreign buyers creating price differences and segmentation in the global market (Dyck and Nelson, 2003). For instance, the poultry industry in the U.S. produces breast cuts for the home market, where consumers pay a high price. The other parts of the carcass are exported to foreign markets where a higher price than is paid in the U.S. This also explains why meat-producing countries both import and export, and why more than 90% of the market consists of parts and not from carcasses. It is deemed critical for the overall profitability in the animal-based industries in the Netherlands that foreign markets remain accessible in the presence of ever-changing safety and quality requirements in trade.

Figure 4.1 **Annual export value in Netherlands, total agrifood and animal products, 1988-2007**



4.2 Binding or request certification and sample bias

VEX and WCI records provide useful information on regulatory problems relating to veterinary certification and possible nontariff barriers. The committees are mainly, though not exclusively, concerned with the functioning of binding veterinary certificates. Industry representatives have estimated the share of binding certificates at 50% for the meat industry and 20% for the milk and dairy industry. In order to assess sample bias in the data, we have computed the shares of exports to non-EU countries exported under a binding veterinary agreement for red meat and for milk and dairy products. These calculations are an approximation on the basis of the sets of information. The VWA website lists, per product category, the combinations of products and countries for which a binding veterinary applies. This status of early 2009 is matched via product codes (HS6) with relevant trade statistics for 2008. The share of binding is the ratio of the export volume in HS products for which an agreement applies over the total export volume for that product to non-EU destinations.[1]

The VWA uses the category of red meat products, which comprises the meat, meat products and slaughter by-products of cattle, swine, goat and sheep. Within the red meat cluster, the most exported products in the Netherlands to non-EU countries are fresh meat of swine (HS0203) and guts of slaughtered animals (HS 0504). For exports of red meat, there are binding veterinary agreements between the Netherlands and 24 trade partners. China is the only of these countries maintaining a total import ban on fresh bovine meat and meat of swine, meat products and slaughter by-products. Only the imports of guts of swine and other animals is allowed. For red meat on average, the share of exports under a binding agreement is estimated at 50 to 60%, respectively based on exported volumes in tonnes and the average value of exports over 2006-07. There are striking differences across product groups. For meat and meat products of swine the share of binding is 56%, against 38% for bovine meat and 78% for guts (all based on the exported value).

Binding veterinary agreements are not common practice in the exports of milk and dairy products. As of March 2009, there are 11 countries that allow imports of milk and dairy under a binding agreement (Table 9). The agreements with Russia, the second biggest export destination for Netherlands, and Algeria are the most relevant for exporting. Other agreements refer to Argentina, Brazil, Croatia, French Polynesia, Israel, Morocco, New Caledonia, New Zealand, Peru

[1] Detailed information is available from the authors upon request.

and South Africa. As seen from Table 3, with five countries (China, Brazil, South Africa, Peru and New Caledonia) there are binding agreements for dairy and milk exports for both human and animal consumption. A match with trade statistics - in particular, the average euro value of exports for 2006-07 - produces an approximation the share of trade under a binding agreement. Less than 8% of milk and dairy for human consumption is traded under a binding agreement. Of milk and dairy for use in animal feed, 14% is exported under a binding agreement.

4.3 Problems in establishing a dataset

Database and methods

The question of whether the activities of VEX and WCI on nontariff barriers related to veterinary export certification have been driving exports of animal products is question for empirical research. An answer to this question sets strong requirements to a dataset in terms of consistency and scope. It is common practice in the research literature on nontariff measures to make use of structured datasets and statistical methods to address such empirical issues. Indeed, the purpose of collecting VEX and WCI data was to construct a consistent database and to apply advanced methods of statistics. The initial views database and methods were the following:

- A database with a particular measure for NTMs that provided obstacles for exports from the Netherlands based on notification by LNV. The database aims for full coverage of all measures, sectors (6 digit HS codes) and destinations but may start with a subset of these. The database is developed for the latest year that data on the three elements are consistently available;
- Based on the database, statistical measures on the prevalence of NTMs in Dutch agrifood exports, and an assessment how international databases reflect on procedural obstacles reported by Dutch agribusiness.

Limitations of VEX and WCI datasets

Several limitations in the VEX and WCI data have constrained the development of the dataset. Regarding data preparation these were the following:

- Keeping the data in a spreadsheet format created the need to make a timeline in a database format, making the procedure inflexible and prone to error;
- Absence of a unique case number limits the possibilities to cross-refer across and between VEX and WCI cases, and introduced somewhat arbitrary decisions;

- No consistent definitions or classifications of products, problems and cases applied. Examples of possible classifications have been used in this paper, such as the harmonized system (HS) for product grouping and the NTM coding system for problems and measures;
- Product definition of VEX cases was difficult but WCI data closer to Harmonized System nomenclature than VEX data;
- VEX problems change over time because we often see partial solutions, e.g. a problems affects all animal-based trade at first, later narrows down to particular products.

Limitations in matching data

For the interpretation, we encountered a number of limitations that prevented a match of VEX and WCI data. The perspective that VEX data are problems, to which WCI provides the solutions appears not to hold when scrutinizing the data. In general, the search for corresponding VEX cases and WCI activities to draft certificates and instructions results leads into few successes on a case-by-case basis. Appendix B provides an extract of VEX and WCI records for meat of swine and for milk and dairy products. The planned rigorous analysis would need precise dates (month-year) of when measures were imposed or lifted. In principle, the VEX list would deliver the begin date of a regulatory problem or potential barrier and the WCI records would return the end date by means of the date of publication of the certificate or instructions that forms the solution of the problem. The lack of opportunities to match VEX and WCI data was the bottleneck for listing a uniform set of cases. The lack of precise timing measurements prevented a relation with trade statistics.

As an alternative, the various elements of the database can be brought together in a case study framework defined by a combination of product-country-measure. This is illustrated in a case study on meat and slaughter products of swine in Appendix B. While informative, the case study framework suffers likewise from the limitations to pinpoint the nontariff barriers related to veterinary export certification.

4.4 Examples of time-line analysis on nontariff barriers

In this section, three sets of information are combined into a time-line of the trade barriers implied by animal disease regulations on exports of pig meat: outbreaks of animal diseases, records of VEX and WCI on the procedural obstacles in veterinary certification in the years 2004-06 and a time series of trade

statistics. Based on information obtained from VIP at the Product Boards for Meat, Livestock and Eggs, an outlook is provided for recent developments.

Profile of exports of pig meat and slaughter products from the Netherlands
The Netherlands are generally well-positioned in the global market for pig meat. The volume of global exports of pig meat (including slaughter products of swine) amounted to 14.4b dollar in 2006-07. Exports from the Netherlands comprised 400m dollar, equivalent to a share of 2.8% of global exports (excluding intra-EU trade). Exports from the Netherlands were directed to over 100 destinations outside the EU, including the major import countries (Table 4.1). In addition, exporters serve a large number of countries with relatively small volumes, creating a diversified export portfolio. A strong eastward orientation is notable. Russia absorbs 21% of exports, China including Hong Kong 25% and Korea 12%. In these regions the share of the Netherlands in world exports exceeds the global average of 2.8%, up to 7.1% in Hong Kong. The largest market share is held on the nearby Croatian market, where an annual export volume from the Netherlands of 20m dollar contributes 14% of exports of pig meat and slaughter products. On the other hand, export performance is below average in the North American markets and Japan. This pattern largely follows the divisions of the Atlantic and Pacific meat markets (section 4.1).

Restrictions related to animal disease regulations
General trade statistics may provide leads for the possible presence of nontariff barriers.

Table 4.1	Exports of pig meat and slaughter products from the Netherlands, 2006-07 a)				
Destination	**Exports**				
	Total		**Netherlands**		**share of world exports (%)**
	volume ($mln)	**share of exports (%)**	**volume ($mln)**	**share of exports (%)**	
Japan	3,649	25.3	30.8	7.7	0.8
Russian Federation	2,254	15.6	85.1	21.4	3.8
USA	1,406	9.7	9.8	2.5	0.7
Mexico	1,038	7.2	0.0	0.0	0.0
Rep. of Korea	897	6.2	49.3	12.4	5.5
China Hong Kong SAR	861	6.0	61.5	15.5	7.1
China PR	613	4.3	36.0	9.1	5.9
Canada	575	4.0	3.4	0.8	0.6
Australia	314	2.2	4.5	1.1	1.4
Singapore	215	1.5	9.0	2.3	4.2
Total Top 10	11,821	82.0	289.2	72.8	2.4
World	14,421	100.0	397.0	100.0	2.8

a) Products included, with corresponding HS codes: meat of swine (0203), various bone-in cuts (021012) and boneless cuts (021011, 021019), sausages (160100), hams (160241), shoulders (160242), preparations (160249), and slaughter products offal (020630, 020641, 020649), pig fat & poultry fat (020900, 150100), guts, bladders & stomachs of animals other than fish (050400).
Source: COMTRADE.

Mexico - pig meat

A striking feature of Table 4.1 is the absence of exports from the Netherlands into Mexico, the world's fourth largest pork importer. While Mexico imports over 97% of its pig meat from the US and Canada under the North American Free Trade Agreement, selected countries have gained access to the market. Chile, Denmark and Spain are exporting an annual volume of 5 to 15m dollar per annum. In the Netherlands there have been efforts for more than a decade to open up the Mexican market for products of swine but these have failed so far.

Mexico prohibits exports from the Netherlands on the grounds of the alleged continuing presence of food and mouth disease (FMD), BSE and classical swine fever (CSF). In fact, the Mexican market has been closed for decades, and at present the import ban stretches to the entire range of animal products from the Netherlands. Mexico does not apply the principle of regionalisation to the EU, and maintains the perspective that the border controls within the EU provide

insufficient safeguards against disease transmission from member states where diseases prevail to disease-free EU countries. Interestingly, however, other European exporters have managed to avoid the restrictions to some extent. Export from Spain are made up of high-quality meat cuts. The Danes exports an annual volume of 3 thousand tonnes of offal. The experiences of these competitors in the Mexican market are of interest to other exporters, and may indicate whether a product from the Netherlands is viable in the Mexican market.

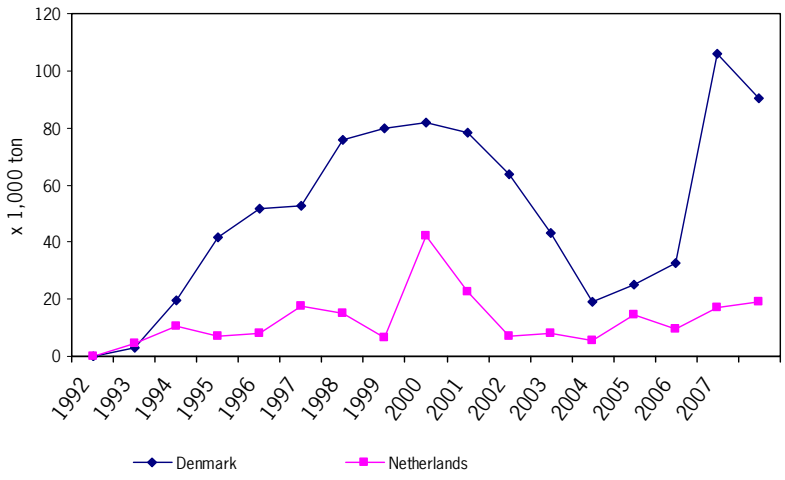
Urged by a renewed interest in the export industry, the CVO has undertaken several efforts between 2004 and 2006 to gain recognition for the disease-free status of the Netherlands with regard to several diseases. Recently, Mexico has requested the completion of several questionnaires on animal health control, as yet another hurdle on the road towards market access. Preparations have been made for the start of negotiations between the EU and Mexico on an EU-wide veterinary certificate, but this has not resulted in progress. Mexico declines to negotiate with the Netherlands bilaterally. The image that arises from the records of the VEX committee is that the process is in a deadlock.

Russia - pig meat and intestines of swine

Demand factors pushed pig meat exports to Russia to a peak volume of 38m euro in 1999. As FMD hit the swine sector, exports plunged to a volume of 10m euro. The recovery of exports was interrupted by a certification problem in 2003. Nearly all binding certificates for Russia contained an erroneous statement that, though respecting the Russian requirements, deviated from the literally agreed certificate language (VIP, 2004). This is a clear-cut case of recognition failure, which was settled by the publication of revised certificates towards the end of 2003. Its impact on exports is uncertain, but surely the problem was not prohibitive for long because the exported volume expanded nevertheless from 7 to over 8 thousand tons in 2003 (Figure 4.2). From 2004 onwards, the rate of export growth picked up again but export volume remained well below the pre-FMD level. In contrast, exports from Denmark recovered more rapidly to the volume of the late 1990s, thus keeping their leading position on the Russian market.

In the Netherlands, merely maintaining the established market position has taken a substantial effort from the certification authorities. No less than four times between 2004 and 2007 have the veterinary certificate or instruction been revised by the WCI: in December 2004, March 2005, October 2005 and January 2007. The revisions in 2005 were largely a consequence of the accession of ten Easter European countries to the EU.[1] Figure 4.3 presents monthly export volume from the Netherlands to Russia. At first glance, the certification efforts in the Netherlands have not provided an immediate impetus to exports from the Netherlands on a monthly basis but the trend is clearly upward. A statistical examination may pursue the likelihood that the publication of a revised certificate or veterinary instruction for exporters marks an acceleration in the growth rate of exported volume.

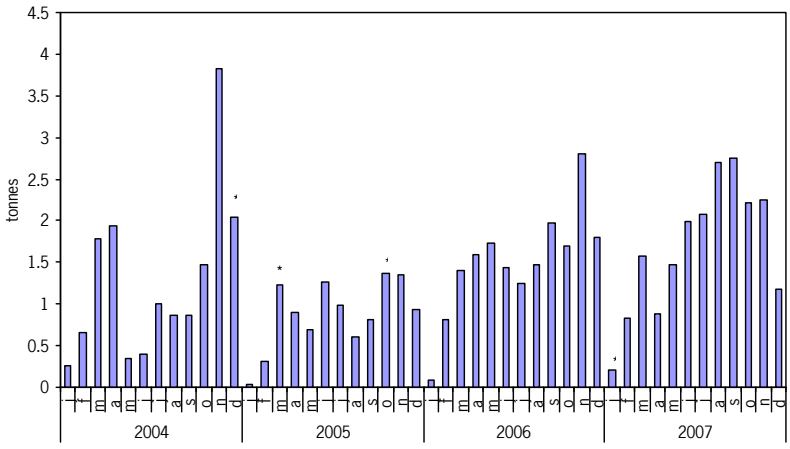
Figure 4.2 **Exports of pig meat and slaughter products from the Netherlands and Denmark to Russia, 1995-2007**



Source: Eurostat/COMEXT.

[1] Surprisingly, however, the VEX committee records make no notice of issues related to pig meat exports to Russia.

Figure 4.3 **Monthly export volume of pig meat from the Netherlands to Russia, 2004-07 a)**



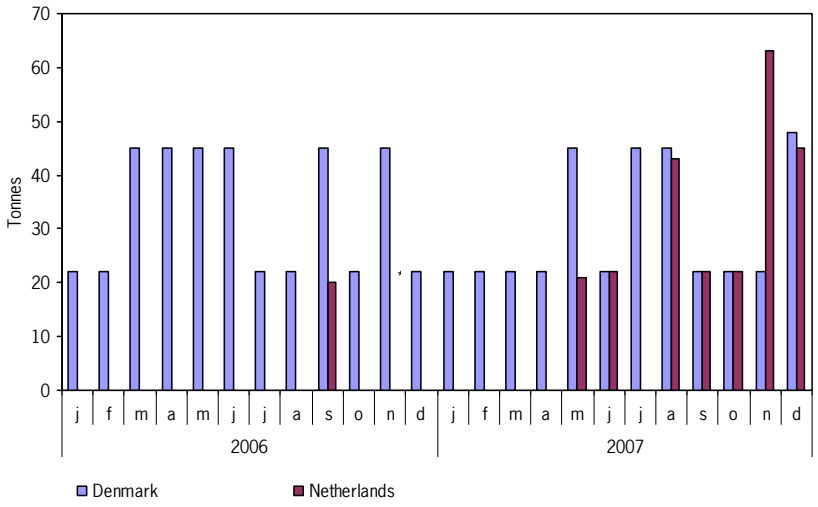
a) The asterisk * marks months that feature the publication of a revised veterinary export certificate/instruction for pig meat exports to Russia.
Source: Eurostat/COMEXT.

While 6 to 8 thousand tonnes of swine intestines are exported from the EU into Russia each year, at an annual value of about 25m euro, Russian did not allow exports from the Netherlands into its market. For several years already efforts were undertaken by the CVO, with support from VEX, to open this market.[1] Agreement was reached with the Russian authorities in 2005 to develop a certificate, and the matter was referred to WCI. As of January 2007 the Russian market has been open for exports of swine guts. According to monthly trade statistics, it took no more than 5 months until the first shipments of intestines landed in Russia. Exports from the Netherlands climbed somewhat during the rest of 2007 from a start volume of 20 tonnes to highest volumes of over 60 tonnes (Figure 4.4). An average monthly export volume of 30 tonnes for the months May to December brought the Netherlands straight into a position of third largest EU exporter, its volume well smaller than the German exports (average monthly volume of 300 tonnes in 2006), but comparable to the Danish.

[1] Vex case no. 18 on opening the Russian market for swine intestines started before 2004 and ended in May 2005 with the start of the development of a new certificate under WCI. The certificate became operational on 1 January 2007.

This evolvement of intestine exports to Russia is particularly interesting as an example of how exports may respond to the lifting of an import ban. Further quantitative analysis of such cases should examine the patterns of recovery in terms of speed, volume and market relations.

Figure 4.4 **Monthly export volume of swine intestine from selected EU countries into Russia a)**



a) The asterisk * marks the opening of the Russian market for intestines of swine from the Netherlands in January 2007.
Source: Eurostat/COMEXT.

4.5 Conclusion

To what extent have the activities of VEX and WCI on nontariff barriers related to veterinary export certification been a driving factor of exports of animal products? An answer to this question sets strong requirements to a dataset in terms of consistency and scope. This chapter has identified several limitations in the data that have prevented a rigorous scientific analysis. The main conclusion is that a scientific analysis is frustrated by several difficulties, which include: sample bias; capturing the time dimension as barriers evolve over time; limitations in the possibility to match VEX record on impediments and WCI records on solutions to trade data; incomplete representations of other factors that determine

the impact of barriers such as market structure, consumer response, trade policies, et cetera. A time-line is a useful tool to relate measures in trade to trade statistics and indicate possible nontariff barriers. For formal answers on questions regarding the impact of measures on trade, quantitative analysis is required. The examples presented illustrate the difficulties involved in performing analyses across products, countries and measures.

5 Conclusions

Animal health regulations have a profound impact on global trade in animal products. A particularly comprehensive instrument to regulate risk in global food trade is the official veterinary export certificate. The certification process provides official attestations on disease control and encompasses the requirements in the form of standards and regulations, the verification procedures under conformity assessment, and the enforcement by operating as a potentially trade-restricting measure.

In this study we examined the trade impediments with regard to veterinary export certification and animal health regulation faced by exporters of animal products in the Netherlands on non-EU markets. The analysis is presented as a case study on the trade effect of technical regulations and standards with a (potentially) prohibitive effect on trade. As an information base, records have been analyzed of two public-private platforms in the area of veterinary certification, VEX and WCI, which address trade problems and threats.

The volume of extra-EU exports (in euro) has expanded only moderately by 1.5% per annum over the past two decades, half of the growth rate of intra-EU exports. As a result, a declining share of extra-EU markets in the Dutch export portfolio is observed for nearly all product groups over time. Feed ingredients are an exception. It is not clear whether the increased orientation away from non-EU markets is related to the presence of NTMs in non-EU markets. Definitely, the demand pull for intra-EU trade has increased with the gradual expansion of the EU and reduction of regulatory barriers. At the same time, it is obvious that the non-EU market provides important outlets for selected animal products. It is deemed critical for the overall profitability in the animal-based industries that these outlets remain accessible in the presence of ever-changing safety and quality requirements in trade.

Nevertheless, the Netherlands appear relatively well-positioned in terms of the access to international markets, despite several animal disease outbreaks since the millennium change. Meat, dairy and a host of other animal products are exported to dozens of countries. With the largest import countries, bilateral veterinary agreements are operational, especially on pork trade. With regard to dairy exports, veterinary agreements are largely irrelevant.

The impact of veterinary export certification on exporters is determined on the basis of differences to the veterinary requirements and practices at home and abroad. While the potential trade barriers and problems related to animal

disease and veterinary certification are diverse in nature, a two-tier distinction is proposed between cases of conformity failure and recognition failure. Conformity failure creates actual or potential export losses, and remedial action is aimed at keeping trade ongoing. In the case of recognition failure, the products and processes in the export industry are complying with the veterinary regulations but there is a lack of recognition on the standard of veterinary service in the exporting country.

An examination of the records of VEX reveals that export certificates were a regular cause of regulatory problems that may have caused export losses in the years 2004-06. The VEX mainly addressed problems related the meat sector and live animals. The under-representation of milk and dairy products in our dataset limits its value to indicate regulatory barriers in exports from the Netherlands. Most recorded cases refer to a set of 12 trade partners including major importers such as Russia, China and the US. Four out of ten cases involve conformity failure and six out of ten cases involve recognition failure. Conformity failures were mainly ad hoc measures relating to disease outbreaks with a temporary nature - although, several measures imposed for the 2001 BSE outbreak have not been lifted by the present date. Cases of recognition failure were mainly related to effort for lifting import bans and restrictions in order to open up the Russian and Chinese markets for exports. It remains to be seen whether the imposition of restricting measures in these emerging markets will reduce under the disciplines of the SPS agreement, as China further integrates into the WTO and Russia is preparing accession.

One of the main activities of VEX is to support the process of negotiation and exchange that leads importers to lift an import ban or other restricting measures. An example of swine intestines has shown that, where such efforts succeed, the export volume from the Netherlands was clearly expanded. The WCI, which has delivered advice on hundreds of certificate texts and instructions for compliance over the years 2001-06 is argued to be a critical and effective instrument for export promotion due to its close relations to the industry.

While the study does not examine the costs of compliance to the exporting firms, the analysis indicates the importance of the activities in the VEX and WCI committees in flagging recognitions and conformity failures and in contributing to least-cost solutions. These committees support the chief veterinary officer (CVO) in the Netherlands in his efforts to gain and maintain access to relevant export markets.

A time-line that combined animal disease outbreaks, nontariff measures and trade statistics is a useful tool to relate measures in trade to trade statistics and indicate possible nontariff barriers. However, the creation of such a dataset

remains a challenge and formal quantitative analysis is required to obtain insight into the impact of measures on trade.

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Appendix 1

Example of a veterinary export certificate

Below the veterinary export certificate for Dutch exports to Algeria of milk and milk products for animal consumption is reproduced.

Certificat sanitaire pour l'exportation vers la République Algérienne Démocratique et Populaire de produits laitiers destinés à l'alimentation animale/ Veterinary health certificate for milk and milk products, which have undergone a single heat treatment and are not intended for human consumption for dispatch to the People's Democratic Republic of Algeria
1 IDENTIFICATION DES PRODUITS/DENTIFICATION OF PRODUCTS Nature des produits/Milk of: (animal espèce/Animal species) Description du lait/des produits laitiers/ Description of milk/milk-based products: Nature de l'emballage/Nature of packaging: Nombre de sacs/cartons/Number of packages : Poids net/net weight (kg): Numéro(s) de référence de production du lot/Lot (batch) production reference numbers:
2 ORIGINE DES PRODUITS/ORIGIN OF PRODUCTS Adresse(s) et numéro(s) d'agrément de l'establissement de production/Address and registration number of treatment or processing establishment:
3 DESTINATION DES PRODUITS/DESTINATION OF PRODUCTS Les produits laitiers sont expédiés de/The milk/milk-based products will be sent from: (lieu d'expedition/place of dispatch) à/to: (pays et lieu de destination/country and place of destination) Par le suivant moyen de transport/By the following means of transport: Lots code/Seal number: Nom et adresse de l'expéditeur/Name and address of consignor: Nom et adresse du destinataire/Name and address of consignee:

4 ATTESTION SANITAIRE/HEALTH ATTESTATION

Je soussigné, vétérinaire official, certifie que/

I, the undersigned official veterinarian, certify that:

1. Les ingrédients laitiers entrant dans la préparation de ce produit ont été chauffés à une température d'au moins 72°C pendant au moins 15 secondes/
   The dairy ingredients which are used in the preparation of this product have been heated to a minimum temperature of 72°C for at least 15 seconds;
2. Le lait utilisé pour la fabrication des produits décrits dans le présent certificat provient d'une région ou d'un pays indemne, durant les 12 derniers mois, de Fièvre aphteuse, stomatite vesiculeuse, peste bovine, peste des petites ruminantes, péripneumonie contagieuse des bovines, dermatose nodulaire contagieuse et fievre de la Vallée du Rift/
   The milk used for the production of the products mentioned in this certificate is produced in a region or country where during the last 12 months no case of foot and mouth disease, vesicular stomatitis, rinderpest, peste des petites ruminantes, contagious bovine pleuropneumonia, Lumpy skin disease and Rift Valley fever has occurred;
3. Le produit ne contient pas de graisses ou de protéines d'origine animale, à l'exception des graisses et des protéines provenant du lait/
   The product does not contain animal fats or proteins of animal origin, with the exception of fat and proteins derived from milk;
4. Les gras surajoutés d'origine végétale proviennement exclusivement d'huile de palme raffinée, et/ou d'huile de coprah/
   The added vegetable fats are solely derived from palm oil, kopra-oil;
5. Ce produit a été examiné en vue de la détection de salmonelle par les autorités vétérinaires officielles, avec des résultats négatifs/
   This product has been examined by the official veterinary authorities with a view to detecting salmonella. The results were negative;
6. Les produits décrits par le présent certificat ne contiennent pas d'antibiotiques/
   The products described in this certificate do not contain antibiotics;
7. Les produits laitiers sont propres à la consommation animale /
   The milk products are fit for animal consumption;
8. On n'a jamais détecté l'Encephalopathie Spongiforme Bovine (ESB ou Maladie Vache Folle) dans le lait et il n'y a aucun doute scientifique sur l'absence de ESB dans le lait et pour cela les produits mentionnés sont considérés comme totalement exempts d'ESB/
   Bovine Spongiforme Encephalopathy (BSE or so called Mad Cow Disease) has never been detected in milk and there is not any scientific doubt about the absence of BSE in milk and therefore the mentioned product(s) is/are regarded to be free from BSE;

9. Les produits décrits dans le présent certificat ont été fabriqués à partir de lait de vaches ne présentant aucun signe clinique d'ESB/
   The product described in this certificate is produced from milk derived from cows clinically free from BSE;
10. Le Ministère de l'Agriculture, de la Nature et de la Qualité des Aliments des Pays-Bas déclare par la présente que le produit mentionné n'est pas contaminé par une dose de radiation qui pourrait mettre en danger la santé humaine et que les doses mesurées sont nettement inférieures aux doses considérées comme sûres par l'Organisation Mondiale de la Santé/
    The Dutch Ministry of Agriculture, Nature and Food Quality declares herewith that the product referred to is not contaminated by any dose of radiation which might endanger human health and that the doses measured are definitely less than the doses considered safe by the World Health Organisation;
11. Le produit tel que décrit dans le certificat satisfait aux exigences de l'UE relatives aux mesures de protection en matière de dioxine et peut donc être consommé par l'animal/
    The product mentioned in this certificate meets the requirements laid down in the EU Commission Decisions regarding the contamination with dioxins in products for animal consumption;
12. Ce produit a été conditionné dans un nouvel emballage/
    This product has been packed in new packaging material;
13. Le présent certificat est accompagné d'un bulletin d'analyse de la composition, dument visé par les services officiels/
    The certificate is accompagnied by an analysis report composition, stamped by the official authority.

Source: VWA.
Code: DPDL-69/versie: 1.0.4, 9 januari 2007.

Appendix 2

A set of export problems and threats

Table B2.1	A set of export problems and threats related to veterinary export certification					
CaseID	**Product**	**Country**	**Start**	**End**	**Type of failure**	
					Compliance (N=74)	**Recognition (N=102)**
43	Breeding cattle	Algeria	10/05/2005	26/07/2005	0	1
56	Veal	Algeria	04/01/2005	19/04/2005	1	0
68	Milk for calves	Algeria	10/02/2004	10/02/2004	1	1
111	Cattle	Algeria	02/05/2006	02/05/2006	1	0
112	Cattle	Algeria	25/07/2006		1	0
135	Sheep and goat	Algeria	10/02/2004		0	1
33	Hatched chicks	Australia	10/02/2004		0	1
38	Animal products	Australia	10/02/2004		0	1
42	Fibrimex	Australia	10/02/2004		1	1
132	Beef, canned	Australia	23/08/2005		1	0
134	Beef products	Australia	10/02/2004		1	0
137	Semen	Australia	03/10/2006		0	1
144	Meat of swine	Australia	10/02/2004		0	1
151	Meat products of swine	Australia	07/09/2004		0	1
22	Bone meal	Bangladesh	09/11/2004		0	1
159	Dairy	Bolivia	04/01/2005		0	1
16	Intestines	Brazil	13/07/2004		1	0
145	Pig meat	Brazil	09/11/2004		1	1
160	Dairy	Brazil	29/11/2005		0	1
75	Pet food	Bulgaria	10/02/2004	01/05/2004	0	1
57	veal	Canada	10/02/2004		1	0
89	Poultry meat	Canada	10/02/2004		0	1
117	Bovine semen, dairy, fish	Canada	10/02/2004		0	1

Table B2.1	A set of export problems and threats related to veterinary export certification					
Ca-seID	**Product**	**Country**	**Start**	**End**	**Type of failure**	
					Com-pliance (N=74)	**Recogni-tion (N=102)**
158	Meat products	Canada	13/07/2004	21/09/2004	0	1
83	Pickled pork products	Caricom	28/06/2005		0	1
23	Bone meal	Chile	31/10/2006		0	1
31	Miscellaneous	Chile	08/06/2004	27/06/2006	0	1
53	Gelatine	Chile	07/09/2004		0	1
58	Veal	Chile	04/04/2006		1	0
74	Equine semen	Chile	04/04/2006	30/05/2006	0	1
6	Chicks, eggs	China	04/04/2006		0	1
19	Intestines, milk-based feed	China	02/05/2006		1	0
21	Animal products	China	26/10/2004	25/07/2006	1	0
24	Bone meal	China	09/08/2005		0	1
50	Breeding swine	China	10/02/2004		0	1
55	Colorant	China	11/10/2005		1	0
59	Veal	China	09/08/2005		1	0
76	Pet food	China	28/06/2005		0	1
105	Bovine embryo	China	10/02/2004		0	1
118	Bovine semen	China	09/11/2004	02/05/2006	0	1
119	Bovine semen	China	28/11/2006		0	1
142	Porcine semen	China	10/02/2004		0	1
146	Meat of swine	China	24/02/2004		0	1
154	Fish	China	03/10/2006		0	1
90	Poultry meat	Cuba	25/07/2006		0	1
44	Breeding cattle	Egypt	10/02/2004		1	0
91	Poultry meat	Egypt	22/06/2004	22/06/2004	1	0
104	Beef/veal	Egypt	10/02/2004		1	1
106	Bovine embryo	Egypt	02/05/2006	02/05/2006	1	0
165	Poultry meat	Egypt	10/02/2004		1	0
161	Dairy	El Salvador	11/01/2006	11/01/2006	0	1

Table B2.1	A set of export problems and threats related to veterinary export certification					
CaseID	**Product**	**Country**	**Start**	**End**	**Type of failure**	
					Compliance (N=74)	**Recognition (N=102)**
157	Meat of ruminants	Philippines	10/02/2004	23/11/2004	1	1
131	Beef and beef products	Ghana	07/02/2006		0	1
92	Poultry meat	Hong Kong	31/10/2006		1	0
60	Veal, Bovine semen	Indonesia	28/06/2005		0	1
87	Poultry slaughter products	Indonesia	09/08/2005		0	1
120	Bovine semen	Indonesia	27/09/2005		0	1
45	Breeding cattle	Iran	10/02/2004	27/04/2004	1	0
7	Chicks, eggs	Israel	19/04/2005	11/10/2005	1	0
77	Pet food	Israel	09/08/2005		1	0
78	Pet food	Jamaica	07/03/2006		0	1
88	Meal of poultry	Jamaica	07/03/2006		0	1
17	Intestines	Japan	07/03/2006	22/08/2006	1	0
61	Veal	Japan	02/05/2006		0	1
69	Pet animals	Japan	19/04/2005	27/09/2005	0	1
93	Poultry meat	Japan	10/02/2004	23/11/2004	1	1
110	Bovine embryos	Japan	11/10/2005	07/02/2006	1	0
121	Bovine semen	Japan	28/11/2006		1	0
122	Bovine semen	Japan	10/02/2004	13/04/2004	1	0
1	Cattle, breeding cattle	Jordan	10/02/2004		1	0
11	Eggs	Jordan	10/02/2004		1	0
152	Feed concentrates	Jordan	10/02/2004		0	1
101	Poultry meat/products	Kenya	11/01/2006	05/09/2006	0	1
12	Eggs	Kuwait	27/04/2004	25/05/2004	0	0

Table B2.1	A set of export problems and threats related to veterinary export certification					
CaseID	**Product**	**Country**	**Start**	**End**	**Type of failure**	
					Compliance (N=74)	**Recognition (N=102)**
2	Cattle, breeding cattle	Letland	10/02/2004	11/05/2004	1	0
26	Feed	Lithuania	10/02/2004	11/05/2004	1	0
109	Bovine embryo, Beef	Lithuania	10/02/2004	11/05/2004	1	0
113	Cattle	Lithuania	10/02/2004	11/05/2004	0	1
25	Bone meal	Malaysia	31/10/2006		0	1
62	Veal	Malaysia	11/01/2006		1	0
39	Breeding cattle	Morocco	21/09/2004	21/09/2004	1	1
46	Breeding cattle	Morocco	10/02/2004	23/08/2005	1	0
32	Miscellaneous	Mexico	25/07/2006		0	1
40	Beef, pork, Poultry meat, Dairy	Mexico	21/09/2004		0	1
102	Pork rind pellets	Mexico	22/02/2005	31/05/2005	0	1
47	Breeding cattle	Moldava	10/02/2004	27/04/2004	0	1
51	Breeding swine	Moldava	10/02/2004	24/02/2004	0	1
94	Poultry meat	New Caledonia	25/07/2006		0	1
95	Poultry meat	Nigeria	08/06/2004	04/01/2005	1	0
123	Bovine semen	New Zealand	31/05/2005	28/06/2005	1	0
71	Swine	Ukraine	11/10/2005		0	1
79	Pet food	Ukraine	04/04/2006	25/07/2006	0	1
114	Cattle	Ukraine	11/01/2006		1	0
128	Beef	Ukraine	07/03/2006		1	0
162	Dairy	Panama	01/02/2005		0	1
5	Chicks	Peru	10/02/2004		1	0
41	Poultry meat	Peru	21/09/2004	31/05/2005	0	1
124	Bovine semen	Peru	26/10/2004	23/11/2004	0	1
9	Miscellaneous	Poland	10/02/2004	11/05/2004	0	1
140	Swine	Poland	10/02/2004	11/05/2004	1	0

Table B2.1	A set of export problems and threats related to veterinary export certification					
CaseID	**Product**	**Country**	**Start**	**End**	**Type of failure**	
					Compliance (N=74)	**Recognition (N=102)**
8	Chicks, eggs	Russia	04/04/2006	25/07/2006	0	1
18	Intestines	Russia	10/02/2004	31/05/2005	0	1
20	Animal protein	Russia	30/05/2006		0	1
28	Feed (plant-based)	Russia	10/02/2004		0	1
34	Chicks	Russia	10/02/2004	07/09/2004	0	1
36	Egg products	Russia	21/12/2004		0	1
48	Breeding cattle	Russia	10/05/2005		1	0
52	Breeding swine	Russia	10/02/2004	07/09/2004	1	0
54	Gelatine	Russia	21/12/2004		0	1
63	Veal	Russia	11/01/2006		1	0
72	Horses	Russia	01/02/2005		0	1
80	Pet food	Russia	10/02/2004	07/02/2006	0	1
103	Re loading/ re-export	Russia	10/02/2004	25/05/2004	0	0
125	Bovine semen	Russia	21/12/2004	21/12/2004	0	1
139	Gelatine (technical)	Russia	30/05/2006		0	1
155	Fish oil	Russia	10/02/2004	05/04/2005	0	1
156	Fish feed	Russia	10/02/2004	22/02/2005	0	1
163	Dairy humane	Russia	10/02/2004	24/02/2004	0	1
164	Dairy-based feed	Russia	07/12/2004	31/05/2005	1	0
96	Poultry meat	Saudi Arabia	13/07/2004		1	0
133	Beef, Veal	Saudi Arabia	10/02/2004		1	0
115	Cattle	Serbia	31/10/2006		0	1
10	Miscellaneous	Singapore	10/02/2004	24/02/2004	0	1
15	Eggs for consumption	Singapore	12/10/2004	05/04/2005	0	1
97	Poultry meat	Singapore	31/10/2006		1	0
147	Pork	Singapore	27/04/2004	11/01/2006	0	1

Table B2.1	A set of export problems and threats related to veterinary export certification					
Ca-seID	**Product**	**Country**	**Start**	**End**	**Type of failure**	
					Com-pliance (N=74)	**Recogni-tion (N=102)**
29	Bovine cattle	Slovenia	10/02/2004	11/05/2004	1	0
129	Beef	Slovakia	10/02/2004	11/05/2004	1	0
85	Poultry	Sri Lanka	10/02/2004		0	1
30	Bovine cattle	Syria	10/02/2004	27/04/2004	1	0
86	Poultry	Syria	10/02/2004		1	0
64	Veal	Taiwan	10/02/2004		1	0
84	Plant-based products	Taiwan	05/04/2005	28/06/2005	1	1
98	Poultry meat	Taiwan	10/02/2004		0	1
136	Birds	Taiwan	07/12/2004	22/02/2005	0	1
148	Pork	Taiwan	10/02/2004	25/05/2004	0	1
65	Veal	Thailand	09/08/2005		1	1
138	Semen	Thailand	11/10/2005		1	1
49	Breeding cattle	Tunisia	24/02/2004	24/08/2004	0	1
116	Cattle	Tunisia	23/08/2005	07/02/2006	0	1
130	Beef	Tunisia	13/07/2004		0	1
3	Cattle, breeding cattle, beef, veal	Turkey	10/02/2004		1	0
13	Eggs	Turkey	09/11/2004	04/01/2005	0	1
14	Chicks, eggs, Bovine embryo	Turkey	13/07/2004	07/09/2004	0	1
81	Pet food	Turkey	22/08/2006		1	0
107	Bovine embryo	Turkey	21/09/2004	22/02/2005	1	0
141	Swine	Vietnam	10/02/2004	22/08/2006	1	0
143	Semen of swine	Vietnam	10/02/2004	22/08/2006	1	0
37	Egg products	US	27/07/2004		0	1
66	Veal	US	27/07/2004		1	0
73	Equine embry	US	26/10/2004	04/01/2005	0	1
99	Poultry meat	US	12/10/2004		1	1
108	Bovine embryo	US	10/02/2004		1	1

Table B2.1	A set of export problems and threats related to veterinary export certification					
Ca-seID	**Product**	**Country**	**Start**	**End**	**Type of failure**	
					Com-pliance (N=74)	**Recogni-tion (N=102)**
126	Bovine semen & embryo	US	27/09/2005	11/01/2006	1	0
4	Cattle, breeding cattle, embryo, semen	Belarus	10/02/2004		1	0
27	Feed	Belarus	10/02/2004		0	1
67	Veal	South Africa	12/10/2004		0	1
70	Birds	South Africa	28/11/2006		1	0
82	Pet food	South Africa	05/04/2005	19/04/2005	0	1
149	Pork	South Africa	10/02/2004		1	0
153	Meat products (heated).	South Africa	09/08/2005		0	1
35	Chicks	S. Korea	03/10/2006		1	0
100	Poultry meat	S. Korea	10/02/2004		1	0
127	Bovine semen	S. Korea	10/02/2004	03/10/2006	0	1
150	Pork	S. Korea	11/10/2005		0	1
166	Veal	S. Korea	03/10/2006		1	0

Source: Authors' compilation based on the records of the strategy group for veterinary export certification (VEX) of Ministry of LNV, the Netherlands, 2004-06.

Appendix 3

Trade-restricting measures relating to disease outbreaks in the past

It is common, even necessary practice for trade partners to impose restrictions on imports from countries where an outbreak of infectious animal disease occurs. The Netherlands have experienced a series of outbreaks in recent years (Table B3.1), and these have had an impact on trade.

Table B3.1 Recent infectious disease outbreaks that have affected free-of-disease status

Incident	When (begin-end)
Bovine (BSE)	2001
Food and mouth disease (FMD)	2001
Low pathogenic avian influenza (LPAI)	2003
Low pathogenic avian influenza (HPAI)	2006
Bluetongue	2006

An important factor in reverting to a normal situation after an outbreak is that trade-restricting measures are removed swiftly after the outbreak is contained. The following phases are often seen. After an outbreak is reported, imports may come to a complete standstill for a limited period of time. As more detailed information becomes available on the outbreak, countries may relax a total import ban, e.g. by allowing imports from non-affected regions (in Netherlands, regionalisation applies to provinces). Eventually, importers will generally remove restrictions or replace trade-restricting measures by requirements in the area of conformity assessment, which are often less restrictive on the opportunities to export. The veterinary export certificate will generally adjust along with the change of measures of the importing country.

The speed and scope of the removal of trade-restricting measures in the aftermath of disease outbreaks differs widely across countries. The VWA keeps a record on the internet for the measures related to the outbreaks of BSE, FMD,

AI and bluetongue.[1] Below, we summarize the measures relating to BSE and FMD as these are most relevant across all the livestock sectors.

Measures relating to BSE

In the aftermath of the BSE outbreak in the Netherlands in 2001, 54 countries had maintained restrictive measures in trade by early 2007. Most notable are long-lasting restrictions in exports to the US, China, Japan and Saudi-Arabia (PVE, 2007).[2] The restrictions affect live ruminants (cattle, sheep, goats), the meat and slaughter products of these animals and a range of processed animal proteins including milk and dairy products, eggs and egg products and feed products containing meat or bone material. Table 3 reports on recent data from the VWA on the measures maintained relating to BSE.

The import ban is still relatively common for live ruminants, including live material such as semen and embryos, and for meat and slaughter products. About 40 countries maintain an import ban on live ruminants and/or the meat and slaughter products of these animals. In addition, 13 countries allow meat products only under restrictions. A common example of such a measure is an age restriction on the slaughtered animal (maximum ages 12 months or 30 months) that may impede the exports of beef or, less frequently, veal.

While feed imports are banned completely by 20 trade partners, the few import restrictions rule out animal protein other than milk products as an ingredient.

For milk and dairy products, BSE-related measures are mostly restrictions on imports rather than a complete ban. Table B3.2 indicates that dairy is least affected by BSE-related measures. One would expect this, however, on the basis of OIE guidelines that list dairy as a 'safe product' under good practices in case of a BSE outbreak. By early 2009, three countries, all of minor importance in dairy imports, maintain a complete ban on all milk and dairy products. In addition, 6 importers impose restrictions on imports. The countries include major import countries such as Egypt, Japan and US. The restrictions are concerned; importers may differentiate their measures depending on whether the milk products are destined for human consumption or for use in animal feed. Importers may require additional guarantees on the safety of products or production processes, or maintain a list of plants eligible for exporting.

[1] VWA, Voorschriften tijdelijke maatregelen. www.vwa.nl/portal/page?_pageid=119,1989804&_dad=portal&_schema=portal

[2] PVE (2007). Jaarverslag 2006 veterinair informatiepunt (VIP). PVE, Zoetermeer.

Table B3.2	Number of countries that maintain quantitative trade-restrictions relating to BSE, by product group a)			
	Product group			
Type of quantitative restriction	live animals	meat and slaughter products	milk and dairy products	feed (ingredients)
Import ban	36	44	3	20
Import allowed under restrictions	3	13	6	4
Total	39	57	9	24

a) State of affairs as of March 2009.
Source: VWA (Voorschriften tijdelijke maatregelen: Landeisen BSE), 27 maart 2009

Measures relating to FMD

The number of restrictions related to FMD are small in comparison to BSE. By early, 2009, eight countries maintain trade-restricting measures on Dutch imports in the aftermath of the 2001 outbreak of FMD (Table B3.3). FMD is a virus that may transmit from one live animal to another or via raw meat and milk products. Therefore, the measures restrict trade in live cattle, swine, goat or sheep, the meat and slaughter products of these animals and milk products. The list of 4 to 5 countries that maintain import bans on live animals and/or meat has been stable over the last years. VIP reports little progress in dealing with the FMD-related measures, except for some limited progress regarding Mexico, which does not declare the Netherlands as a safe country for production (PVE, 2007). Restrictions relating to FMD are not common and may involve additional requirements regarding the FMD status of the herd or a treatment of products to further reduce the risk of transmitting FMD. The measure may involve spraying live animals or a heat treatment of meat and dairy products. Feedstuff or its ingredients are not affected by FMD-related measures because there are no eligible pathways for transmitting the virus via processed proteins.

Table B3.3	Number of countries that maintain quantitative trade-restrictions relating to food and mouth disease, by product group a)			
Type of quantitative restriction	**live animals**	**meat and slaughter products**	**milk and dairy**	**feed (ingredients)**
Import ban	4	5	0	0
Import allowed under restrictions	1	2	2	0
Total	5	7	2	0

a) State of affairs as of March 2009.
Source: VWA (Voorschriften tijdelijke maatregelen: Landeisen MKZ), 27 maart 2009.

Appendix 4

Exports of animal products from The Netherlands

A veterinary export certificate is required to accompany shipments to non-EU destinations of all products that are either derived from animals or that will enter the feed chain of animals. This implies that all of trade under HS2 chapters 01-05, 16 are covered plus selected products under chapter 16, 23, 35.[1] We refer to this aggregate as trade in animal products, which, by and large, covers live animals, meat and dairy products, fisheries products, slaughter by-products and feed.

In 2006-07 the total annual volume of Dutch exports was 22.6b euro, or 38.4% of total agrifood exports. About 85% of the total export of animal products (in euro terms) is exported to EU member states. The remaining 15% that was exported to non-EU countries covered an average value of 3.5b euro in 2006-07.

Regarding the product composition of exports, milk and dairy products make up half of the export volume if milk-based albumins and starches are included. The dairy industry is a main supplier into the production of feed ingredients, which make up 13% of exports. Meat and slaughter products including fats are 20% of exports. Fisheries products, feed ingredients and live animals contribute another 10 to 13% each.

Table B4.1 indicates for the top 20 products in animal exports to non-EU destinations, the volumes and average annual rates of growth. The most important products are milk powder, feed ingredients & pet food, cheese, frozen fish and meat of swine. Historical growth rates differ widely across products. While the exports of milk and cheese consumer products face a negative or small-positive growth rate, exports of dairy-based ingredients, meat of swine and edible offals are expanding at a fast pace of over 10% per annum.

[1] HS is the abbreviation for the Harmonized System nomenclature for traded goods, maintained by the World Customs Organisation.

Table B4.1	Top 20 Animal Products in Exports of Netherlands to non-EU countries 2006-07			
Rank	HS4 code - Product name	Volume (million euro)		Average annual growth rate
2006-07		1988-1990	2006-07	1988/90-2006/07
1	0402 - Milk and cream, concentrated	945	628	-1.6
2	2309 - Preparations of a kind used in animal feeding	88	344	5.6
3	0406 - Cheese and curd	178	305	2.2
4	0303 - Frozen fish (excl. fish fillets)	88	263	4.5
5	0203 - Meat of swine, fresh, chilled or frozen	12	161	11.0
6	0405 - Butter and other fats and oils derived from milk	282	131	-3.0
7	0404 - Whey	15	111	8.3
8	0207 - Meat and edible offal of poultry	28	100	5.2
9	0101 - Live horses, asses, mules and hinnies	10	89	9.3
10	0302 - Fish, fresh or chilled (exclusive fish fillets)	16	80	6.5
11	3501 - Casein, caseinates and other casein derivatives	7	77	10.2
12	0206 - Edible offal of bovine animals, swine, sheep	7	72	10.0
13	0407 - Birds' eggs, in shell, fresh, preserved or cooked	46	61	1.1
14	0306 - Crustaceans, whether in shell or not	12	55	6.1
15	0504 - Guts, bladders and stomachs of animals other than poultry	19	44	3.5
16	0105 - Live poultry	32	40	0.9
17	0102 - Live bovine animals	9	39	6.2
18	0401 - Milk and cream, not concentrated	15	39	3.9
19	4101 - Raw hides and skins	23	38	2.0
20	1602 - Prepared or preserved meat, offal or blood	61	35	-2.2

Source: Eurostat, COMEXT.

LEI Wageningen UR develops economic expertise for government bodies and industry in the field of food, agriculture and the natural environment. By means of independent research, LEI Wageningen UR offers its customers a solid basis for socially and strategically justifiable policy choices.

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