Doping behavior in international cycling from a public administration perspective

A multiple case study research to the international anti-doping policies and the influence of constitutional contexts on the development and preservation of doping behavior retrospectively performed in 4 selected cases.

UNIVERSITEIT TWENTE.

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A multiple case study research to the international anti-doping policies and the influence of constitutional contexts on the development and preservation of doping behavior retrospectively performed in 4 selected cases.

Masterthesis

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Preface

This Master Thesis is written in the context of the master education Public Administration at the University Twente, specialization Public Management. The finish of this master thesis is all about the graduation of the master Public Administration. The guidance is in the first place performed by Professor Dr. René Torenvlied and the second guidance was the responsibility of Professor Dr. Bas Denters. The Process of the creation of the thesis is been a long and lonely process from out of my attic room in Varsseveld, nevertheless it is been an instructive process which made me stronger in my conviction. I enjoyed all courses of the master Public administration and I assume the knowledge I gained is a good prelude to my social career.

For the master thesis I chose a topic that lies very close to my heart which is cycling and more specifically the inequity and injustices in the sport. The administrative world of sports is highly applicable for the education Public Administration because I see the world of cycling as a small world on its own. Besides both worlds are also strongly connected, for instance the financial crisis also found his punch in the organization of cycling. For me it is fascinating to see how these two worlds are connecting together and dealing with issues, trends and any kind of developments. Equally like in the real world, the administrative world of cycling is also very bureaucratic and built on rules and regulations with a compliance which is very focused on enforcement. Only difference with the real world is that the organization of cycling internationally is very centralized with the UCI as central and most powerful body. Nevertheless I am convinced that the administrative issues are very comparable and that both worlds potentially could learn from each other.

For the guidance in the process of this thesis I need to thank Professor Dr. René Torenvlied and Professor Dr. Bas Denters. Especially in a longstanding process they both have always been very patience and above all they kept me enthusiastic and motivated for the content of this thesis. Besides I need to thank my parents who always supported my, mentally and financially as well.

Rens Spijkers

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Management summary

Doping is a prominent issue in the world of cycling. From administrative perspective it is questionable how the common doping behavior in teams could outwitted the institutions since the Festina affair in 1998 until 2012, when the team organized doping culture in the US Postal team became known from the USADA report. This will be researched from perspective of doping usage in teams with help of the following four selected cases; US Postal, Rabobank, Telekom and Cofidis.

The relation between the individual cyclists and the common institutions will be researched with help of principal agent theory. The most common institutions in enforcement are the UCI, as central leading entity; the WADA as worldwide leading anti-doping entity; the national cycling federations and the national doping authorities. Each cyclist, team and race organization is embedded in a different context which explains the complexity of enforcement in cycling. Principal agent theory is helpful in analyzing the relationships in which one, the principal, has to control the other, the agent. In this research the UCI is the principal and the principal needs to enforce doping usage among the agents, individual cyclists. In each principal agent relation there is an information asymmetry which means that both do not have the same set of information, the principal has to control the agent but he is not omniscient. In every case of information asymmetry, which could be caused through small interpretation differences, the agent will act in its own interest because that will be at least the second best option. Mason and Slack (2005) explained four different kinds of costs for information asymmetries: Environmental costs; monitoring costs; bonding expenditure costs; and the residual lost which concern the costs of doping usage.

Environmental costs are the costs of the contexts, which you cannot influence. The monitoring costs are the costs of enforcement and bonding expenditure costs are the costs in order to motivate the agent or others to participate in the enforcement process. The monitoring process in cycling increased a lot during the research span, especially since the introduction of the WADA, the WADA Code and the UNESCO agreement. From the mid 00's the national anti-doping authorities received more independent delegated responsibilities which resulted in a decreasing usage of doping in teams. Especially in US Postal, Rabobank and Telekom is a perceivable effect, the French case of Cofidis might be an exemption due to interference of the French policy as third party in enforcement. Also the increased unpredictability of controls contributed to descent of doping usage. Mainly the introduction of the whereabouts system shows significant descents in the usage patterns. Although has to be supplemented that the introduction of the whereabouts system was simultaneously with other anti-doping developments resulting from the WADA Code. Then the last concept of the monitoring strategy, namely the technologic development was researched but nothing significantly was found. Regarding the participation and collaboration part of information asymmetries the WADA played a very important role. Not every incident was significant with a descent in doping usage but the UCI/ WADA conflicts turned out to be very time costly. Regarding participation from national authorities there was found nothing significant because the implementation issues in enforcement appeared to be very marginal in cycling. Regarding participation from teams in the battle against doping it turned out to be that there is a relation. However it seemed to be only effective in combination with the creation of awareness, such as the internal anti-doping policy of Telekom in 2007. During the research span the professionalism of the organization of cycling and enforcement increased that much, that team organized doping and the culture of doping seemed to be banned out however information asymmetries and individual doping usage still could exists.

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Abbreviations

ADAMS	Anti-Doping Administration and Management System
ADC	Anti-Doping Commission
AFLD	Agence Francaise de Lutte contre le Dopage
ASO	Amaury Sports Organization
CADF	Cycling Anti-Doping Foundation
CAS	Court of Arbitration for Sports
CIRC	Cycling Independent Reform Commission
FFC	Federation Francaise de Cyclisme
KNWU	Koninklijke Nederlandse Wieler Unie
LADS	Legal Anti-Doping Service
MPCC	Mouvement Pour Cyclisme Credible
NADA	Nationale Anti-Doping Agentur (Germany)
USADA	USA Doping Acency
WADA	World Anti-Doping Agency

1. Introduction

Doping is generally known as a critical and complex problem in the international world of sports and especially in cycling. The cycling world is characterized by many doping affairs[1] however the Festina affair in the Tour de France of 1998 gained probably the most imagination and changed the whole perception of the battle against doping. The Festina affair made clear to the outside world that doping was being systematically used in team organized networks within the professional peloton (de Bruijn, Groenleer and van Ruijven, 2013). The Festina affair was one of the main causes for the establishment of the World Anti-Doping Agency (WADA) in 1999 which was a fundamental change in the battle against doping in all sports (Cox, 2014). In perspective of the post Festina era, Vest Cristiansen (2005) stated that team organized use of doping became impossible. Since 1998 the societal attitude towards doping should have changed and team managers became under pressure of the sponsors. The teams are financially dependent on their sponsors who in their turn became afraid of bad publicity. Nevertheless, then there still remains the possibility for doping networks outside of the teams. History learned that also after 1998 the cycling world dealt with several doping cases and affairs, so far not directly related to team organized usage. However the in October 2012 published USADA report (2012) regarding the doping affair of Lance Armstrong and his teammates sheds a whole new light over this era. The USADA report provided clear evidence for team organized doping. Equally disturbing was the wide spread of evidence for failure in the executive enforcement that the USADA report delivered, cited by de Bruijn et al. (2013). Wagner (2010) admitted that the cycling peloton dealt with a number of highly publicized doping related affairs since the Festina affair, although he also states that other sports as well have suffered from doping incidents since 1998. Different from other sports is the common doping culture that appeared to be growth in professional cycling. Jeroen Blijlevens confirmed in *Andere Tijden Sport* (2014) “that everybody in the professional peloton was aware of the use of EPO in the late 90’s”, he was surprised by the inside openness about EPO in the peloton and also emphasized the code of silence to the outside world. The code of silence in the cycling world is known as the “Omerta”, an inherited term from the Italian maffia. Palmer and Yenkey (2013) provided in their article some exemplary events to demonstrate the Omerta in the 1990’s. For instance the riders responded with a collective protest in the Tour de France of 1997 after multiple doping searches.

How could it be possible that the cyclists commonly outwitted the institutions in a time when the cyclists were conscious of the new societal norms, since 1998, while the institutions were aware of the harms and risks of doping towards the sport? De Bruijn et al. (2013) translated violation of cultural values and failure of enforcement mechanisms in their own research into a question of governance. Similarly this research is focused surrounding the governance issues of the common doping culture and the related failures or successes of its administrative process. The time span of this research is from 1998 to 2014, the period in which the institutions tried to tackle team organized doping. At input for this research the main problems, the professional doping culture and the institutional failure of enforcement, are already examined extensively in the Freiburger report (2009), the USADA research (2012), the Sorgdrager report (2013) and the CIRC (2014) commission. These reports commonly cover the doping period until 2014.

[1] http://www.dopingautoriteit.nl/wat_is_doping/geschiedenis_van_doping/enkele_bekende_dopingaffaires. (2014, September 5)

Palmer and Yenkey (2013) describe doping as a serious problem because it violates ethical principles, societal norms, national laws and administrative rules. Many scholars have examined doping issues in cycling from health, social and cultural perspectives. However there is not that much research available on doping from a governance perspective. While the establishment of the WADA is seen as a big public administrative event, there was according to Hanstad, Smith and Waddington (2008) strikingly little scientific attention. According to Palmer and Yenkey (2013) there is increasing recognition that sports represent fruitful contexts for studying organizational phenomena because sports fields possess the same complexity as other organizational fields. The administrative perspective of doping in cycling is interesting because the UCI is accompanied by many different federations in its fight against doping, on international and national level as well. The UCI is facing many ethical, political, networking and organizational issues and can been seen as a small world on its own. Sport is like life, simplified (Palmer and Yenkey, 2013).

1.1 The cultural problem

Mignon (2003) hypothesizes that doping has been seen as legitimate among cyclists for a long time, mostly because of the nature of the sport but also because of the thin medical line between regular treatment and doping. Since 1967 it was not a public secret that doping use in the cycling peloton was pretty regular when one of the stars in cycling, Jacques Anquetil, declared that anti-doping laws were idiotic. That time several cyclists revealed that doping was part of the job. Mignon (2003) added that the use of doping also developed more extensively because the sport has been professional for so long. The increasing economic interests made the athletes body became to be seen as “a tool of trade for the cyclist who ride for living”. Instead of bad or corrupt persons, Mignon (2003) describes the athletes as workers who are managing their careers with innovative deviant behavior who accepts the general aims in favor of the legal means. Since the individual athlete is not alone in his behavior, through interaction with many people in cycling he becomes skilled in rationalizing this behavior in front of judgments from the outside. Thus the cycling world created a sub-culture in which cyclists cooperate with other cyclists, doctors and trainers in which the use of illegal treatments became legitimate. According to Mignon (2003) this sub-culture is formed within the interplay between the internal constraints and the external constraints. The internal constraints are described as the internalizing doping related norms in all sports and society. The external constraints are described as the common organizational actions in order to enforce the rules specifically in cycling. Figure 1 illustrates how the internal and external constraints are related to each other in the contexts of professional cycling. The main underlying assumption in this study is that the weaknesses of the external constraints imposed by the UCI might explain the greater development of doping usage in cycling compared to those developments in other sports.

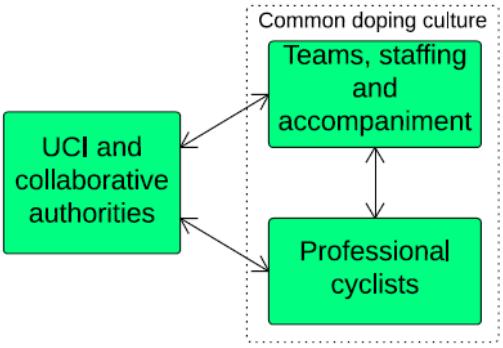


Figure 1: Relational scheme of the doping culture

1.2 Fight against the code of silence

De Bruijn et al. (2013) explained the cultural aspects of doping problems which are generally known as the code of silence. From a cyclists perspective, de Bruijn et al. (2013) blamed the conservation of the common doping use due to the fear of being a tattler, everybody rather waits for someone else. In addition, everybody in cycling is afraid for the social pressure from the peloton and even more importantly for the unknown regarding possible sanctions from the authorities. Thus it will be important for the UCI to perform a decent policy with clear sanctions, although that will not be that easy. The cultural doping problem is already recognized for years in the governance world of cycling however the UCI was not able to tackle the problem in the 90's. Prominent figures like former UCI chairman Hein Verbruggen stated that it was impossible to be not aware of the doping issues for a sports official in cycling (*Eén op Eén*, 2014). His successor Pat McQuaid acknowledged that almost the whole professional peloton used doping in the 90's ("Wielerflits," 2014). In international cycling there apparently originated an undesired cultural situation in which the use of doping was relatively common. Still it is an understatement that the UCI failed to ban out the code of silence. The ultimate signal for the UCI its inability to tackle the doping problem was the applied indirect EPO measure from 1997 until 2001. This indirect test measured the red cell concentration in riders their blood with a maximum hematocrit value of 50 percent, which remains an undesired leeway for cyclists to 'play' with their blood values (Palmer and Yenkey, 2013).

The partial extermination of smoking problems in the Netherlands might form a useful parallel for this kind of cultural behavior how individuals act in groups. Sherman, Rose, Koch, Presson and Chassin (2003) stated that the attitude construct has been the central construct in smoking behavior for the past 50 years. Sherman et al. (2003) tried to explain the effects of context and motivational state on attitudes towards smoking with implicit and explicit measures. The context describes factors like peer pressure and motivational state describes the real desire to the cigarette like the nicotine deprivation. Because smoking is more an addiction or just a bad habit it divers to some extent from doping in cycling. Doping is mainly the desire to cheat. However Wiefferink, Detmar, de Hon, Vogels and Paulussen (2005) also applied the attitude construct in their doping research in Dutch sports. Important contextual factors in cycling would for instance be physical demands, once again peer pressure, extent of competition and the difficulty to get doping. Motivational factors in cycling thus especially capture the desire to cheat.

1.3 Complications of the institutional process

In the international fight against doping, the difficulty in developing a decent culture based anti-doping policy for the UCI lies in the collaboration with other sports and anti-doping federations. Wagner (2010) explained the difficult network relations from the UCI's perspective. Each country has another context and its own laws, regulations and legal issues. Then each country has its own national member organization which is obligated with an anti-doping policy and regulations of punishment. In addition those organizations are mostly part of an umbrella organization which means that there also needs to be some harmonization between other sports. Besides, each country has its own national executive anti-doping agency with different budgets and priorities. However since the Festina affair in 1998, the anti-doping policies changed a lot. The World Anti-Doping Agency (WADA) was established in 1999 on purpose of promoting, coordinating and monitoring the fight against doping in sports (Assoignon and Ervyn, 2007). Since the establishment of WADA and its additional WADA-code in 2004 there emerged a more harmonized anti-doping approach in the

international sports, nevertheless the UCI did not succeed in stopping Lance Armstrong and his teammates during the 1990's and there remained institutional and contextual differences between the countries (Assoignon and Ervyn, 2007). In terms of the institutional processes, Wagner (2010) explained the difficulty for the UCI to come up with their intended and desired solutions under pressure and in collaboration with the many involved and powerful institutions in the decision making process.

1.4 The regulation dilemma

From perspective of regulations, the doping dilemma is centered surrounding the question of more or less anti-doping rules and regulations. Potoski and Prakash (2004) examined the regulation dilemma in the environmental context. In cycling the UCI is the governmental body, teams and cyclists represent the societal side. Potoski and Prakash (2004) mentioned that the regulation dilemma from government's perspective can be conceptualized as a dilemma between a strict and deterrent approach opposed to a more flexible approach, while the society side's perspective stands for a choice between evasion and self-regulation. The win-win interaction of these choices occurs when the government's body chooses for cooperative regulatory enforcement and the other side for self-policing, it will lighten the enforcement task for the governing body and the 'citizen side' could benefit from the cooperative incentives like assistance and more flexibility. However, the dilemma is that both sides of regulation have powerful incentives to behave opportunistically. Sigman (2008) adds transparency as a crucial element in the battle against doping. Sigman (2008) compares the world of cycling with the highly inflated world of stock firms. He argues that the money and interests in the cycling world increased so high that the only counterparts against cheating become transparency for the shareholders. In practice that will mean transparency in the blood values of the cyclists, but there are also big downsides like their individual privacy. Since December 2009 the blood values were gathered in an international database, but the values are not available in public. In arrangement with Sigman (2008), also Berentsen (2002) admits the importance of the inflated money and interests in cycling. Berentsen (2002) adds that punishments are not in every segment of the sport aligned with the possible benefits of doping abuse. Smith and Stewart (2008) state that the WADA anti-doping policy is too heavily based on principals of minimizing drug use, and gives insufficient weight to the minimization of drug related harms. The authors argue that anti-doping policy in sports would benefit from higher emphasis on a harm minimization model. In line with this broader view surrounding regulation of doping could self-regulation being considered as a third option for better regulation. Mason and Slack (2005) explained with help of Principal agent theory how the principle possibly can motivate cyclists for self-regulation, for instance with certification and education. The mechanism which describes the desire for self-regulation among agencies is called bonding expenditure costs (Mason and Slack, 2005).

1.5 Central research question and sub questions

This research aims to clarify the conservation of doping behavior in professional cycling after the introduction of WADA from an organizational perspective. The research will be explored by determining the effects of the UCI its international anti-doping policy over time in comparison to the implementation on national level in the institutional contexts of four different cases.

Research question

> *How was it possible that doping behavior in the professional peloton remained uncontrolled by the authorities from the time period after the Festina affair, and to which extent did the UCI, in collaboration with affiliated authorities, successfully organize their anti-doping policy?*

Sub-questions

1. How did the organization of anti-doping in cycling look like, and what historical developments played an important role in the battle against doping?
2. What institutional factors might have played an important role during the research period from 1998 until 2014 in the athletes doping usage and to what extent development of resources was of influence?
3. How did the enforcement look like into practice and what organizational factors might have been influential on doping behavior in the context of a team?
4. How did the development of doping behavior look like in the four selected teams, and to what extent can that development be contributed to organizational factors?

1.6 Case selection

This research shall have a case study design in which four selected cases will be researched extensively. More detailed information about the case study research design can be found in chapter 3.2; Research design. De Vaus (2001) explains that case selection in case study designs should be of strategic nature because *"strategic selection of the cases contributes to literal and theoretical replication."* Thus, the cases must be selected on independent variables regarding the institutional context in order to declare possible variation by these contextual factors. In addition there are some necessary conditions for the selection of the cases. The most important condition for team/ county selection is that the teams must have been active in professional cycling for the biggest part of the research time span. Then, there should be a decent demand of data available in nowadays knowledge. And there should be at least two cases with a proven culture of organized doping use. The choice for the number of four cases is made due to restrictions of time and four cases will satisfy because cycling in the 90's was pretty centralized surrounding only a few cycling countries with the USA as only non-European player.

That distribution immediately provides a clear understanding of the first case, namely US Postal Service. US Postal Service was the only big player outside from Europe in the EPO era. As only non-European player they were not aligned to the European federation UEC and the as Anglo Saxon country the USA traditionally have been different from the Western European countries in anti-doping culture. Besides the Armstrong affair is one of the occasions for this research. The second case is the Dutch team Rabobank. Doping traditionally is never been a big issue in the Netherlands. Although they have had some doping incident, Dutch cyclists have never had a bad doping reputation. However the Sorgdrager report proved that image to be completely wrong. The Rabobank case displays some interesting parallels with US Postal Service in terms of time, people and excising culture. The third case is the German team Telekom. Germany is different from most West European countries because they not have a very long tradition in cycling. Striking in the case of Germany especially is the public disapproval surrounding some doping cases that finally resulted in media boycotts of cycling. Telekom is known as one of the biggest teams in the EPO era with especially Jan Ulrich as main challenger of Lance Armstrong in the battle of the Tour de France. Then

the fourth and the last case is a French team, namely Cofidis. The French anti-doping policy is always been extremely strict and hard. At the end of the 90's doping possession fell under criminal law and some team managers have imprisoned. Team Cofidis also have had some doping cases in history, however there was never found evidence for team organized matters.

The four selected cases

- **Case 1: US Postal Service**
- **Case 2: Rabobank**
- **Case 3: Telekom**
- **Case 4: Cofidis**

1.7 Structure of the report

Right after the introduction the theoretical framework will be treated extensively with its main objective to explore the applicable theoretical funding for cultural group behavior related to the enforcement relationship. This chapter should result in a set of hypotheses that will serve as the guidance for the rest of this research. Then in the methodology chapter the variables and data collection for these hypotheses will be described. Thereafter the four composed research sub-questions will be addressed. The first sub-question is about the organization of cycling and the second one about the presence of institutional developments in cycling, different from organizational factors. This chapter is necessary in exploring the difficulties in the governmental processes and shall more or less serve as control variables for the conclusion. Then the remaining sub-questions that should discuss all the hypotheses variables will be presented in order of the cases. First the independent variables out of the hypotheses will be addressed from perspective of the international context. These hypotheses are divided in two main categories; chapter 5 process of enforcement, chapter 6 process of participation and collaboration. Then in chapter 7 the dependent variable of doping usage per team will be discussed. Each case will be discussed separately and after the exploration of the dependent variable the applicable hypotheses will be discussed per case. The cases will be treated in the following order; the US Postal Service team, the Rabobank team, the Telekom team and team Cofidis. Then finally all information will be pulled together in order to present a comprehensive conclusion.

2. Theoretical framework

In the introduction became clear that doping usage in professional cycling is a complex issue. The possible causes for doping usage might differ due to factors of time, culture, executive enforcement, contexts or institutions. However instead of motivations for individual doping usage, this research shall focus on issues of rise and sustainment of the common doping culture. The UCI and the national federations are commonly responsible for enforcement and the sustainment of this doping culture. Thus the main observed relationship in this research is the relation of the cyclists opposed to the UCI, intervened by the national authorities. These relationships will be explored from a principal agent theory perspective. This chapter should provide clearness in the issues of governance related to culture and enforcement translated in testable hypotheses. These hypotheses together should capture all administrative problems of the UCI in their fight against the doping culture. In chapter 3 the methodology will be discussed in which all the variables of the hypothesis will be addressed including the collection of the data.

2.1 Theoretical building

This research will be written from retrospective perspective at a single point in time. According to De Vaus (2001) a research from retrospective nature demands to start with a historical construction of context in which the research takes place. That historical chapter will be important before drawing conclusions because it provides insights in the rise of the doping issues and also presents the most important actors and responsibilities in the enforcement process during the beginning of the research period. The main relationship in which the UCI with its collaborative bodies needs to enforce the anti-doping policy opposed to the professional cyclists can be explored with help of principal agent theory. Principal agent theory concerns issues of motivation in which the principal is not able to control the agent. Mason and Slack (2005) explored a useful application of principal agent theory in sport organizations. Because of information asymmetry, the principal is never able to fully control the agent. Bounded rationality explains the phenomenon that information to some extent is always asymmetric for the different parties. Due to humanity reasons the principal can impossibly control everything, he is not omniscient. Small differences in interpretations can already cause major information asymmetries between principal and agent. Information asymmetries are always harmful to the principal because the agent finally will always act in its own interests. Principal agent problems arise when both principal and agent have different interests, in this case doping free sports versus high individual performance (Mason and Slack, 2005). In this research the main relationship is the enforcement relation between the UCI as authority and the professional cyclists. However it needs to be emphasized that this is a very complex relationship with many involved parties with different responsibilities in the organization of the sport and the enforcement process. Later on in this research principal agent theory will be used on several levels, for instance how the UCI controls its national agents, or how national federation control teams. For now the general enforcement relationship between UCI and individual cyclists will be used as starting point in composing and distributing the research hypothesis for the theoretical framework.

- Research will start with a historical introduction: Chapter 4
- Principal agent theory will be helpful in exploring the theoretical framework: Chapter 2.1.1

2.1.1 Principal agent theory

Principal agent theory thus explains how the principal could control the agent. However in this research especially the rise of information asymmetries will be important. Information asymmetry is a key element for the distribution of this research because apparently there was an information gap between the UCI and the cyclists. The introduction chapter emphasized the general knowing of the doping culture, but since the UCI failed to ban out the common doping culture they seemed not to be aware of that culture during the research period of this report; from 1998 until 2014. The institutions should be fully in touch with their enforcement task in case they would control or at least minimized all information asymmetries. However self-interested behavior of both parties makes the rise of information asymmetries almost impossible. Mason and Slack (2005) noticed three main streams of self-interested agency behavior in sport organizations. They distinguished adverse selection; which is a misinterpretation of qualities and abilities by the agency itself. Moral hazard; is in fact a lack of effort by the agency summarized as shirking. And then Agent ignorance; ignorance means a wrong image of the principal about the agency performances, under- or overestimating. Adverse selection is not appropriate. Despite Mignon (2003) described the cyclists as individuals who show innovative deviant behavior, they were fully aware of the legal means. Then agent ignorance and moral hazard remain as possible explanations for doping abuse. Thus it could be a question of overestimating from the authorities in which the physical demands are too high, although the UCI was aware of the common doping culture in the peloton in the late 90's. Or it could be a doping related moral lack among the cyclists. Possibly it will be a combination of these two mechanisms however in both cases external factors determined the crucial information asymmetry. The rise of these information asymmetries will be further explored in the following paragraph. Factors of moral lacks and physical demands are not directly of administrative nature however they are of importance and will be included in the control variables because these factors did change over time.

2.1.2 From principal agent to the distribution of hypotheses

Then, from the information asymmetries there is only one step remaining for distributing the hypotheses. Information asymmetries are namely always related to costs and Mason and Slack (2005) divided four type of costs in enforcement relations. Mason and Slack (2005) argue that costs are being caused by the self-interest of the agency, their deviant behavior to the principal. Mason and Slack (2005) distinguished four mechanisms. Monitoring costs are the costs that the principal makes in order to control the agent. Bonding expenditures costs work the other way around; the costs that the agency makes in order to prove their qualities to the principal. Residual costs are the costs of shirking, in this case obvious the costs of doping abuse and the damage to the sport. Mason and Slack (2005) added a fourth type of costs namely environmental munificence which provides explanations for failure where the sport institutions cannot influence on. Such as the financial crisis that brought the professional survival of some riders into danger through lack of sponsorship money among several teams. Environmental munificence captures all the costs for contextual factors not directly related to the power of sporting authorities. Therefore this type of costs will be treated in a contextual chapter in order to align the necessary control variables for this report. The monitoring costs combined describe the quality and the strategic process of doping controls and will be treated as the first chapter of hypotheses. The bonding expenditure costs together form the second chapter of hypotheses. This type of costs will describe the interaction between anti-doping actions or new initiatives from any institution and resulting behavior among the process actors, from the UCI to the national federations, authorities, teams and individual cyclists and the other way around. The

residual lost in cycling is the total harm to the sport through doping abuse and will be treated in the conclusion.

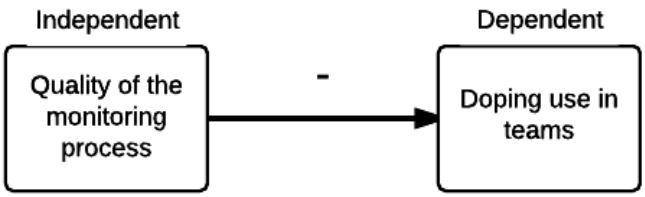
- Environmental munificence: **Chapter 4** Institutional context
- Costs of monitoring: Hypotheses building chapter 2.2, researched in **chapter 5**
- Bonding expenditure costs: Hypothesis building chapter 2.3, researched in **chapter 6**
- Residual lost or the use of doping: Conclusion **chapter 8**

2.2 Assumption 1: Monitoring

Assumption 1 assumes that the monitoring process is related to the doping usage in teams. This assumption should guide this research to a direction which shall be divided in 3 testable hypotheses; hypothesis 1a, 1b and 1c. These three hypotheses should commonly represent all aspects of the entire monitoring process. The monitoring process by Mason and Slack (2005) can be seen as the core business of anti-doping policies because it includes the executive part of control. The process of monitoring should maximize the executive quality of doping tests and also capture factors of technology, collaborations and the strategic process of assigning and storing doping controls. The process of monitoring will be tested in the first of two main hypotheses; a perfect monitoring process would increase the chance of getting caught doping users up to one hundred percent. Of course this would not be realistic at all, mainly due to restrictions in the number of available controls and the grey era in doping which will to some extent always remain. Nevertheless the quality of the monitoring process should be determining for doping use on team level because a good monitoring process will increase the change of getting caught doping users. At the end it would be really stupid for a cyclist to use doping products that even in micro doses are detectable and when the density of control is very high and unpredictable also. It is obvious that the authorities failed to monitor doping use among cyclists properly since the Festina affair because reports like the CIRC report learnt that many doping users remained uncaught. However the CIRC report also mentioned that cycling is a very complex sport for the monitoring process thus it remains questionable to what extent that was attributable to the UCI and to what extent improved monitoring should have been realistic anyway. The monitoring strategy of the UCI underwent many changes during the research span such as for instance the introduction of the biological passport. Because these kinds of changes, the quality of monitoring can be measured relatively easy by measuring those effects in terms of doping use on team level.

Assumption 1

Quality of monitoring is negatively related to doping use at the team level.

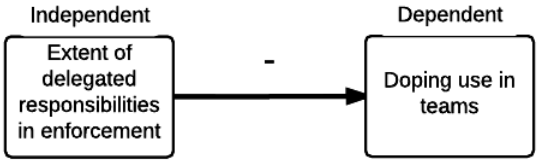


2.2.1 Hypothesis 1a: Delegation of monitoring

The first sub-hypothesis regarding the quality of monitoring is about delegations. In a principal agent relationship there always exist more interests besides only enforcement. The UCI has a great importance in clean sports but in order to enhance the commercial value of the sport they also have interests in attractive races and especially avoiding the big doping scandals. These divergent interests need to be managed properly with help of delegations. More and a better quality of delegations should be determinative for the quality of the entire monitoring process. Delegation can be applied on several levels and in many constructions but always causes a shift in responsibilities and independencies. Strausz (1997) shows the positive effects of delegation to independent supervisors in a principal agent relationship with moral hazard. With delegation the divergent interests disappear because the supervisor has only one interest. For a good monitoring process it will be very important to contract the supervisor on the right conditions. The supervisor must be stimulated to monitor very well and the agents must be stimulated not to dope (Strausz, 1997). In cycling it will be important to perform as much as possible tests as good as possible and also strategically well planned. However for the supervisor there may never arise an interest avoid detection or possibly to punish innocent cyclists, simply all cheaters must be caught. The delegation of doping tests changed a few times during the research period as will become clear in the historical chapter. Also doping tests can be performed by several authorities. The delegated inspectors will be researched very extensively and especially the extent of independency and type of contracting will be addressed.

Hypothesis 1a

The extent of delegated responsibilities in enforcement is negatively related to doping use at the team level.

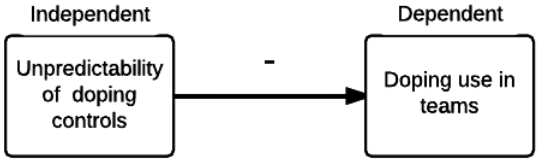


2.2.2 Hypothesis 1b: Unpredictable controls

The executive doping testing process is performed by inspectors who are in direct contact with the cyclists. De Bruijn, Groenleer and Van Ruijven (2015) assume that the cyclists are amoral calculators in this controlling relationship. De Bruijn et al. (2015) provided some examples of predictable control patterns in enforcement out of the USADA report and applied the theory of mirror imaging. Mirror imaging explains the visible patters of control in which the cyclists do have a very good understanding of how the inspector is performing his job. As a result of that clear understanding the cyclists are always able to manipulate the process and possibly can always stay the inspector one step ahead. The strategic process out of the previous hypothesis is already strongly related to the predictability of control however this hypothesis deals with unpredictability in time. Time is an important factor in doping control because cyclists must not have any chance of avoiding tests or erasing possible traces of their doping usage. Higher unpredictability in the process of testing doping should lead to less doping use in teams because the chance of being caught increases. The extent of predictability especially will be researched base on the USADA and the CIRC report. The quality of the monitoring process again will be based on doping cases over time per team case. Predictability could especially arise by standardized procedures such as standard testing times for the inspectors, certain repetition in testing order or guidelines for tests in or out of competition.

Hypothesis 1b

The unpredictability of doping controls internationally, and per team, is negatively related to doping use at the team level.

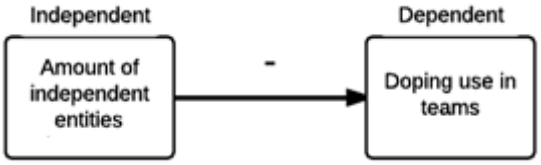


2.2.3 Hypothesis 1c: Technologic development

In a principal agent relationship in which the principal needs to enforce agents, resources will always play an important role. The importance of resources was already illustrated with the count of doping tests and is also important in the development of anti-doping technologies. Resources itself in this research shall be addressed as control variables in the changing context of cycling because the UCI and the national federations are responsible on the governmental institutions and the total developments of cycling and administrative sports. Nevertheless the development of technologies is not solely dependent on money but especially the total attempts to anti-doping developments are determinative for the quality of the monitoring process. For good quality monitoring it will be important for the enforcement authorities to be aware of all the doping issues and new developments and therefore anti-doping development must be widely supported amongst the international network. In cycling there are many involved institutions and therefore it becomes harder for the principal to control the agents in the battle against doping. However Hansen (1999) states that weak relational ties might be beneficial for the quality of technology because it could possibly stimulate the amount of efforts in the search to innovations. Because the several federations act more or less on its own, the amount of initiatives could be higher. However this also might become a risk because initiatives of separate federations might not be capable of developing their initiatives alone due to its limited knowledge or capacity.

Hypothesis 1c

The amount of independent entities over time is negatively related to doping use at the team level.



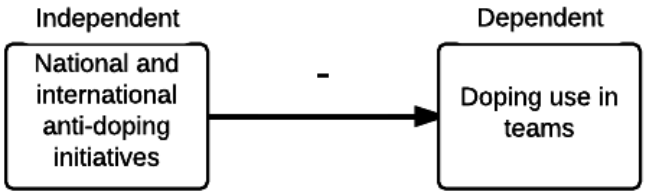
2.3 Assumption 2: Participation and collaborations in anti-doping

The second general assumption in this research assumes that the participation of stakeholders in the battle against doping can be stimulated and will lead to less doping usage in teams, partly due to the increased awareness of the problem and mostly due to the broader set of measures. This assumption will finally be answered with help of 3 testable hypotheses that should represent all kind of participation and collaborations. Doping is a societal issue which means that the UCI is not the only owner of this problem. However since the UCI is the leading authority in cycling it is questionable to what extent they cooperate with other problem holders and to what extent the UCI stimulates and facilitates his agents to participate in the battle against doping. Regarding costs of information asymmetries Mason and Slack (2005) described this phenomenon as bonding expenditure costs. The bonding expenditure costs capture the costs of the agency in order to prove their qualities or abilities

to the principal. Frequent examples of bonding expenditure costs are costs for certification or education. A perfect attitude construct from the UCI would lead to less doping use in the team cases, partly due to the outcome of new initiatives but also due to the increased attitude awareness among institutions and cyclists as well. The effects of an attitude based anti-doping construct shall be measured by comparing worldwide new initiatives with doping use in the team cases. Out of the cycling world there have been a few initiatives to prove clean cycling, think for instance about the MPCC community. This common sharing of responsibilities is a development that especially became present in the last phase of the doping era. The clearest example of bonding expenditure costs is the creation of uniformity already started in the late 90's, as the WADA intended the international battle against doping. Without uniformity and transparency there is no such responsibility to share because everybody acts in their own interests.

Assumption 2

The number of anti-doping initiatives by national and international federations is negatively related to doping use in teams.

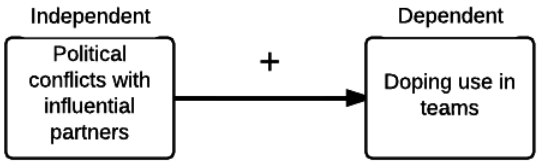


2.3.1 Hypothesis 2a: International collaborations

The first sub-hypothesis from participations and collaborations in anti-doping is about the international contexts. From international perspective the UCI collaborates with several parties who also have their interests in the battle against doping; think about the continental federations, the IOC, the WADA, teams, united unions and race organizations such as the RCN and the ASO. The UCI is aligned to these parties in a principal agent relationship because the UCI is leading in cycling and all involved parties have their specific responsibilities in enforcement. These parties are mostly pretty attached to each other due to their monopolistic character caused by the uniqueness of each single entity in sports. The theory of regulatory capture provides help in analyzing the influence of commercial interest groups on regulatory agencies such as the UCI that are created to act in the public interest. Regulatory capture is the process through which regulated monopolies end up manipulating the state agencies that are supposed to control them (Dal Bo, 2006). The process in which monopolistic partners start manipulating national and international anti-doping policies usually end up in conflicts. According to Oosterwaal and Torenvlied (2012) policy divergence can be explained by political conflict in interaction with agency preferences. Political conflict is disagreement surrounding the legislators which result in more costs for policymaking. These costs subsequently leave fewer budgets for implementation procedures which will increase the policy divergence. Oosterwaal and Torenvlied (2012) also state that diverse agency preferences could lead to an increased policy divergence, called policy conflict. Political conflict is defined as the difference between the actual policy decision from the policymakers and the preferred agency policies.

Hypothesis 2a

The amount of conflict between UCI and national and international federations authorities positively affect positively affect doping use in teams.

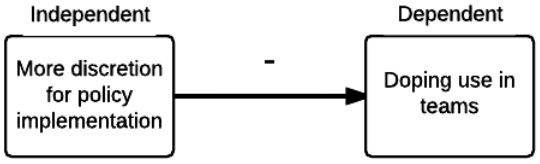


2.3.2 Hypothesis 2b: Heterogeneity in authorities

The second sub-hypothesis of anti-doping participation and collaboration is purely about the heterogeneity among the national contexts. The relationships of the UCI with its national federations and doping authorities are based on clear principal agent situations. The national federations are strictly aligned to the execution of the UCI its anti-doping policy however organizationally and financially they are independent from the UCI. Thus on issues like education the national federations are able to start their own initiatives. In order to improve international heterogeneity the UCI tries to implement very specific measures, but it is questionable to what extent specific measures lead to new initiatives such as educations. The transaction cost perspective of the delegation theory provides help in analyzing mutual differences in the delegated agencies. According Thomson and Torenvlied (2011) the transaction costs perspective is focused on information asymmetries between policy maker and policy implementers. Because the implementers of the strategy have more knowledge about the implementation implications with high information intensity and specific contexts, the agents derive always to some extent from the original implementation plan (Oosteraal, Payne and Torenvlied, 2011). A very strict implementation with less room for interpretations by the agents result a very heterogeneity world in which all nations are comparable to each other. But on the other hand it is also very costly for the agent because it is hard to implement and remains not much room for new initiatives and collaborations. Thus for the policy makers this is a question of providing discretion to the federations.

Hypothesis 2b

More interpretation leeway's for implementations in national authorities are beneficial for new anti-doping initiatives on national level which negatively affects doping use in teams.



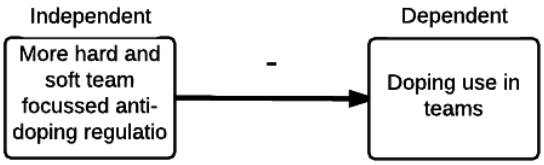
2.3.3 Hypothesis 2c: Participation from teams

Besides the mentioned institutions also the teams and cyclists as well might play an important role in the battle against doping. The teams and cyclists also have interest in clean sports their selves, but in order to get them into action the institutions should promote them to partakers of the problem. Addressing the agents should lead to more anti-doping initiatives and collaborations among the teams and cyclists their self. Nowadays the teams are making several bonding expenditure costs such as for instance the MPCC initiative and the Velon community, but in the 'omerta' period these common initiatives were unknown. Besides voluntary costs, also obligated rules and regulations such as team suspensions could have played an important role in the participation of teams. According Mason and Slack (2005) contracting based on outcomes could stimulate the bonding expenditure

costs. Therefore the addressing of teams and cyclists will be measured with the total count of hard and soft anti-doping measures over time, that influence the costs or responsibilities of teams regarding anti-doping obligated or voluntarily.

Hypothesis 2c

The introduction of hard and soft team focused anti-doping regulations by any institution negatively affects doping use in teams.



2.4 Hypotheses scheme

The theoretical framework below can be considered as a summary of this chapter, figure 2. However it also conceptualizes the origins of the hypotheses and the role of principal agent theory. Principal agent theory served as starting point for the theoretical funding of this research and resulted in the threefold distribution which represents the costs of the principal agent relationship (Mason and Slack, 2005). From the four kinds of costs that Mason and Slack (2005) distinguished residual lost is excluded from the first part of the framework. Residual lost capture the costs of doing nothing or at least not enough, residual lost in fact is doping usage in this context and will be treated in the discussions and conclusion chapter, chapter 8. Environmental munificence will be treated as control variable because concerns contextual changes out of the influence of the institutions. The dependent variable in this research, as explored in the hypotheses scheme of figure 2, is doping use in teams. This contains the average of doping use in only one team explored over the whole research period. This variable will be measured with the objective measures like retrospective confessions but will also be supplemented with subjective data about cultural attachment and extent of doping use in order to explain variation within teams. The independent variables are from national perspective of the case but always deal issues out of the professional level. The professional standards are international and thus sometimes equal for all the cases but the contexts differ per case. The variables will be further explored in the methodology chapter. In the following sections the hypothesis will be examined one by one, but first the methodology of testing will be addressed.

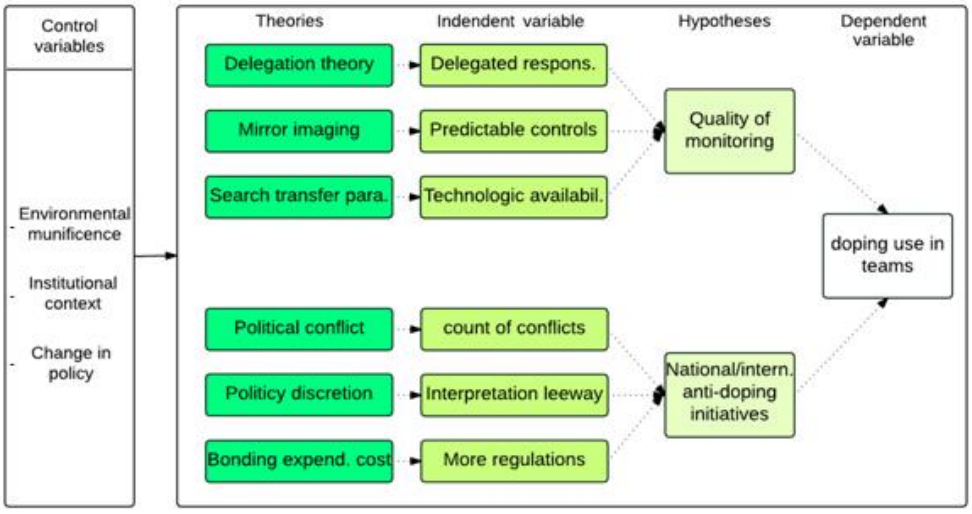


Figure 2: Theoretical framework and Hypotheses scheme

3. Methodology

This chapter aims to describe and explain the elaboration of the methodological framework as applied in this research. First the setting and the research design will be explored. In the second half of this chapter the data collection and the variables will be addressed, distracted from the research questions composed in chapter one. Information about the limitations of this research design will be discussed in more detail in the final chapter of this report.

3.1 The setting

This study should describe the successes and failures of the international anti-doping policy in cycling over the last decade. Because the cultural doping issues in cycling are known as more problematic in comparison to other sports, this research is performed from the UCI its organizational perspective and their relational approach towards all involved policy performing institutions. As already illustrated in chapter two the international policy is shaped within the interplay between several institutions. All these institution will influence the international policy in different ways, but it especially will be interesting to see how the divided influences from national institutions or international organizations work out differently on national teams and individuals. It is possible to analyze the successes and failures of the international anti-doping policies from an administrative view. However this study is not about the administrative process itself but instead about the effects of administrative tools and measures. Thus the only way to determine the extent of successes or possible failures of the UCI its policy is to measure the effects of the most important policy actions in the professional peloton, mediated by global developments. Shifts in doping use or "policy related effects" in the professional peloton will be measured with doping usage per team, divided in four selected cases. These quantitative data will be supplemented with subjective qualifications regarding the extent of use. Doping usage per team will serve as an indicator for the outcome of the national anti-doping policy in that particular country. Team cultures itself of course are not directly derived from national anti-doping policies but the possible shifts in cultural anchoring for doping use might be strongly related to administrative processes.

3.2 Research design

This research is an explanatory case study existing of multiple cases in which four strategic selected cases will be discussed. The selected cases US Postal Service, Telekom, Rabobank and Cofidis are already introduced in chapter 1.5. The population is consisting of four pulled team cultures which are represented by all active cyclists during the research period, N=4. Figure 3 displays an overview of the distribution of the population divided per team case, existing of a total N of 445 observed individuals, based on the cycling results data website of procyclingstats (http://procyclingstats.com). The doping rates in figure 3 are based on the doping data website of dopeology supplemented with cycling4fans, the first cell displays the total observed N from procyclingstats.com, the second column provides the distribution of cyclists per team, the third column makes the distinction per individual cyclist about the presence of doping incidents on dopeology.org or not, and the last column provides an overview surrounding positive tests and other forms of involvements in doping incidents (http://dopeology.org). The units of analysis are not the four selected teams directly on itself but all the individual cyclists and ex-cyclists who were part of the common team cultures. De Vaus (2001) stated that the units of analysis need to be treated as embedded units in order to build a fuller and different picture of the units by incorporating the individual context. In this study the individual context is very important because the common cultural behavior is highly dependent on all the

individual doping incentives. De Vaus (2001) mentioned that different types of data collection will be required for this type of study because many cases will consist of different elements. At the end of this study all individual riders will be pulled together in the four divided team cultures in order to say something about the cultural shifts and the relation of these shifts with the hypothesis variables. Note that these team cultures are very dynamic because they exist of cyclists and accompaniment originated from different countries and cultures. Besides, all these teams are part of the overall international cycling culture in which cyclists can mutually transfer between teams. Nevertheless each team has its own culture and is responsible for its own sportive and anti-doping policy.

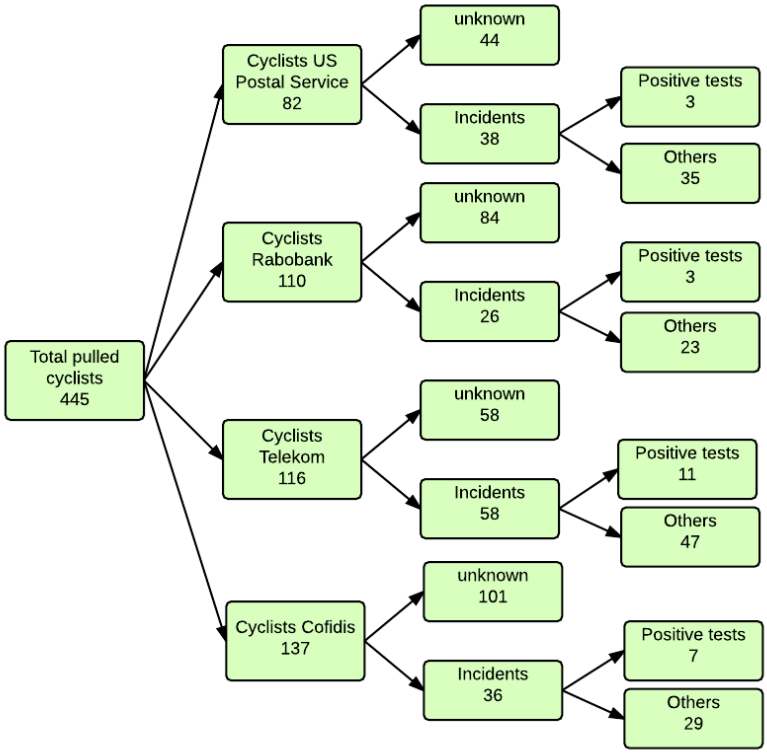


Figure 3: Sample population

In this study inferences will be drawn based on variation among units namely teams and the relating contexts, and also the variations over time will be examined. This research is performed from a retrospective perspective over a certain time period starting from 1998 to 2014. Doping usage will be measured with help of two indicators, first the actual known doping usage, and secondly the extent of cultural anchoring of doping usage within the team distracted from public statements. Cyclists who state that they never used doping are not very reliable because they often may not have a reason to break through the code of silence. In order to fix that only the “doping users” among the four selected teams will be part of the sampled population. Subsequently inferences can be drawn based on the variation in doping use. Doping usage is of course in every case an individual characteristic, but the possible shifts in cultural doping use should be valid for all the team members. Due to the nature of this research subject it will be a qualitative research which means that the direction of the drawn conclusion might be very reliable, but the causal relation and the extent of the effects are very hard to determine. Benefit from a qualitative research is that it could provide many new insights and could deliver several new interesting research subjects (Vaus, D., 2001). Finally this research aims to determine the causal relationship between the use of doping in the professional

peloton and the related administrative processes. The underlying assumption in this research is that the phenomenon of doping use in professional cycling could have been at least partly avoided by reasons of administrative governance.

3.3 Data collection

This research has a retrospective nature because it covers a certain period but is conducted at a single point in time. According to de Vaus (2001, p. 227) this retrospective nature demands a reconstruction of the history of the case. Chapter 4 will describe the rise and development of the current UCI anti-doping policy in collaboration with all involved authorities. According to de Vaus (2001, p. 230) data collection in case studies is characterized by the combination of multiple collection methods. "*Any method of data collection can be used within a case study design as long as it is practical and ethical*" (de Vaus, 2001, p. 231). Case studies seek to build up a full picture of the case, the subunits, and the context. In analyzing the UCI its general administrative culture as an umbrella organization in the world of cycling the CIRC report (2015) will be very useful. In this report the research commission analyzed very extensive all the successes and failures of the international policy. Then also the UCI site and the old UCI site will be used to research old initiatives (http://UCI.ch; http://oldsite.uci.ch). Since the occasion for this research was the team organized doping in the 'Armstrong' and 'Rabobank' era, those associated cultural research reports will be crucial in analyzing those two cases; the USADA report (2012) and the Sorgdrager report (2013). These two reports represent the main input for the data collection and discuss mainly the independent variables that should declare the institutional environment of the divided cases. For the third case of team Telekom the Freiburger (2009) report was found to fulfill an equal function in this study. However these reports mainly discuss the doping culture from a qualitative perspective, thus for a more objective measure all doping/ incident rates from dopeology.org will be used. The fourth case of team Cofidis does not encounters such a cultural report however there are some descriptive scientific articles available such as Brissonneau and Ohl (2010) who researched the effect of French anti-doping policies in cycling. Possible gaps will be supplemented with media news articles, media interviews, annual reports and recent published scientific reports. These reports and media articles together will form the base in testing the formulated hypothesis. The data collection procedures per hypothesis will be discussed more extensively in the treatment of the variables in the following chapter.

3.4 Variables

This research searches for shifts in the cultural doping usage in teams, like already illustrated in chapter 4.1 the setting. Usage of doping will be analyzed from individual perspective but finally shall be pulled together in one team culture. Individual usage is way too unreliable as indicator on itself because it is very sensitive for individual incentives. In the variable team usage, individual incentives should be ruled out by qualifying the extent and reasoning for possible usage. Thus main dependent variable in this research is doping usage in teams and should finally serve as an indicator for the effects of the national anti-doping policy in the particular case. The team usage will be researched from retrospective view and the possible shifts in doping use over time should be explained by administrative processes, mainly based on principal agent theory. The independent variables should represent all the administrative related factors that might be causal for a change in doping use in teams. The independent variables in this research are divided in two main streams; namely the monitoring process and the collaboration processes. These policies will be analyzed with help of

media interviews, media attention, and the input of several research reports. Monitoring is the strategic process of control including the executive process. Collaboration should describe the role of all the involved stakeholders in anti-doping, especially from the view of the UCI. Other factors like institutional change and development of resources in the sport shall be treated as control variable.

3.4.1 Dependent variable: Doping use in teams

The representation of doping usage in this study is doping use in teams, as central determinative indicator for the doping culture. Not necessary the individual incentives for doping usage are of interest, but the environmental and cultural circumstances in which each individual consideration takes place are important. As data input for this variable we use the public database website dopeology.org supplemented with the data on cycling4fans.de about all the usage of doping in cycling (http://dopeology.org; http://cycling4fans.de). Both databases together should provide a complete overview of all doping cases without any gaps, dopeology.org is very broad and complete in individual cases and cycling4fans.de provides a clear picture of team cases.

Doping use in teams will be measured subjectively on two different indicators with help of following typologies. At first all the official doping caught riders and unofficial public confessions will be ranked by name including at much as possible information about the type of doping products and time span of use. Then the two indicators will be measured with help of the two typologies; extent of doping use and the anchoring of the cultural environment. This will be analyzed subjectively. The extent of doping usage and anchoring in cultural environment are factors that might explain variation within the cases. Otherwise it should not be possible to register effects of single individuals on that many policy events. The variable of team use will be measured on a yearly scale because there is no clear description of time distance between policy events and effects.

Typology 1: Extent of doping use

5. High intensity of several products
4. Systematic use without medical risks
3. Use in preparation/ recovery
2. Incidental action
1. Accidentally or unknown

Typology 2: Cultural circumstances (Sorgdrager report, 2013)

5. Socialization: doping use and secrecy as a learned behavior
4. Rationalization: personal justification of doping use
3. Institutionalization: strengthening of the group norm
2. Supporting: facilitating and stimulation of doping use from the teams
1. Conservation: factors that perpetuate the doping culture

Data input:

- Dopeology.org
- Cycling4fans.de
- Procyclingstats.com

3.4.2 Independent variable: Monitoring quality

The quality of monitoring is the comprehensive process that should determine the chance for each individual doping user of being caught and exist of three hypotheses. No matter how sizable the doping controls are, when there is a lack in the system in which doping use is possible the whole enforcement process is of no means. As the CIRC report declared there were some issues like for instance predictable control times and there were also rumors of corruption. Like the word rumor already suggests, this might be a hard variable to investigate. Therefore this will be a qualitative research mainly based on the research findings of the four cultural reports; Sorgdrager, USADA, CIRC and Freiburg report supplemented with information about the institutions such as annual reports. At the end the quality will be based on the use of doping, but of course there is a reasonable chance that many doping users remain unknown. All strategic policy changes over time from the UCI will be taken into account, like sanctions, people and technology. The effects of all these changes finally will be evaluated based on subjective analysis and compared with the changes in the dependent variable in the same time period, doping use in teams.

Independent variable hypothesis 1a

Hypothesis 1a is about the extent of delegations in the enforcement process. This will be researched by first exploring information about delegation out of the CIRC report (2015), supplemented with any other information about responsibilities on the UCI site and annual reports. Also the paper of Waddington (2010) will be used surrounding the responsibilities of the WADA. The more responsibilities outside from the UCI, executive and financially as well, the higher the extent of delegations. Thereafter for each single case the websites and annual reports will be examined of the sport federations and the anti-doping authorities as well. The extent of delegations will be determined subjectively based on the theoretical input. Afterwards the extent of delegations shall be compared with the variable doping usage in teams.

Data input:

- CIRC report
- Annual report UCI (2013)
- UCI site (http://uci.ch)
- Council of Europe website (http://www.coe.int)
- UNESCO website (http://www.unesco.org/new/en/social-and-human-sciences/themes/anti-doping/international-convention-against-doping-in-sport/)
- Waddington, I. (2010). Surveillance and control in sport: a sociologist looks at the WADA whereabouts system. *International journal of sport policy*, *2*(3), 255-274.
- Tygart, T. T. (2003). Winners Never Dope and Finally Dopers Never Win: USADA Takes Over Drug Testing of United States Olympic Athletes. *DePaul J. Sports L. & Contemp. Probs.*, *1*, 124.
- Annual report USADA (Annual report USADA, 2001)
- Dutch doping authority on Dutch situation (http://dopingautoriteit.nl)
- German doping authority website on Telekom case (http://www.nada.de)
- Brissonneau and Ohl paper on anti-doping in France (Brissonneau and Ohl, 2010)

Independent variable hypothesis 1b

The second hypothesis is about the predictability of doping controls. Again the CIRC report and the Waddington (2010) paper represent the biggest part of the input. Especially the CIRC report provides many insights in anti-doping controls in practice, which is very helpful in analyzing the predictability. More data about control in practice and mutual differences per case are not available, however the

differences per case should be very limited as the CIRC commission suggests since the introduction of the WADA Code. The extent of predictability will be ranked subjectively in a histogram that shall be compared with doping usage in teams.

Data input:

- CIRC report
- Waddington, I. (2010). Surveillance and control in sport: a sociologist looks at the WADA whereabouts system. *International journal of sport policy*, *2*(3), 255-274.
- Dutch doping authority website (http://www.dopingautoriteit.nl)

Independent variable hypothesis 1c

The third and last hypothesis regarding monitoring deals with the question of the influence of amount of entities on the executive part of enforcement, in other words to what extent more entities lead to more initiatives and technologic developments. Collaborations will be researched with help of the UCI site, national anti-doping sites and the Sorgdrager report. Collaborations will be compared to doping use at that time in the particular case, but also compared with the table out of the Sorgdrager report about the development of anti-doping tests. Possible fluctuations in more and new entities should be related to decreasing doping rates.

Data input:

- CIRC Report
- Sorgdrager report regarding collaborations and table (Sordrager, 2013)
- UCI site regarding anti-doping collaborations (http://www.uci.ch)
- French anti-doping website about ASO AFLD collaboration (http://www.afld.fr)

3.4.3 Independent variable: Participation and collaborations in anti-doping

Then participation and collaborations in anti-doping is the second involved independent variable. In this context especially the attitude construct towards stakeholders from the perspective of the UCI is of importance, central question is how the UCI manages participations of the stakeholders in the battle against doping. These stakeholders can be divided into three categories; the independent and international stakeholders who might have influence on the UCI such as race organizers and the WADA; the national authorities who aligned themselves with the UCI; and the individual cyclists and team who can contribute in the battle against doping as well, on own initiative or possibly in united unions. This variable should answer how much effort the UCI took in order to change the doping culture by mobilizing other stakeholders. Important factors to measure are the count of new initiatives, the obligated nature of these initiatives or not, count of conflict situations with stakeholders and open attitude for initiatives from outside the organization. This will be measured in policy documents of the particular bodies and based on interviews as well. New initiatives as a result of a more proactive policy of the UCI shall underline this hypothesis.

Independent variable hypothesis 2a

Hypothesis 2a is the first hypothesis out of the participation and collaboration section from the UCI its anti-doping policy. Hypothesis 2a is about the international conflict situations that influenced the international anti-doping policy. All the important conflict situations are described in the CIRC report (2015). The conflict situations will be compared with the count of doping related articles on the website of cyclingnews.com and with doping rates. The greater or smaller gaps between doping articles and actual doping rates could be caused by the conflict situations.

Data input:

- CIRC report
- Wagner, U. (2010). The International Cycling Union under Siege—Anti-doping and the Biological Passport as a Mission Impossible?. *European sport management quarterly*, *10*(3), 321-342.
- Table from on doping news articles from cyclingnews.com (http://cyclingnews.com)

Independent variable hypothesis 2b

The following independent hypothesis variable is about policy discretion provided to the national authorities. Especially the paper of Waddington (2010) should provide information about the strictness of policy implementations. Since the introduction of the WADA Code in 2004 the most important enforcement implementations are very strict and uniform per country, however factors such as educations remained more flexible. Annual reports of the UCI and some national sources such as USADA annual reports, the Dutch and German website of the anti-doping authority provided some insights.

Data input:

- Old and current UCI websites (http://oldsite.uci.ch; http://www.uci.ch)
- UCI 40 years of fight against doping (UCI, 2001)
- USADA report annual reports (Annual report USADA, 2010; Annual report USADA, 2013)
- Website German cycling federation (http://rad-net.de)
- Website of Dutch doping authority (http://dopingautoriteit.nl)

Independent variable hypothesis 2c

Then the last sub-hypothesis of participation and collaboration is about participation and mutual collaborations on team level. The first base of information regarding initiatives will be searched from the UCI site. Then the websites of the team will be important to explore to actions and initiatives and also search engines on the websites cyclingnews.com and wielerflits.nl will be used. The count of initiatives and collaborations will be compared to the dependent variable over time, doping usage in teams. More doping initiatives per case should lead to decreasing doping rates in the particular team case.

Data input:

- Old and current UCI websites (http://oldsite.uci.ch; http://www.uci.ch)
- Websites of cycling news (http://www.wielerflits.nl; http://www.cyclingnews.com)
- UCI 40 years of fight against doping (UCI, 2001)

In comparison to the research design the following chapter will describe an historical overview of the doping issues. This should be helpful for gaining understanding in the difficulties of the doping problems. Besides the historical developments during the research period will be taken into account as control variables in order to declare changes in the institutional contexts. Thereafter the four selected cases will be addressed.

4. Development of doping in cycling: institutions and behaviors

Chapter four shall provide answers in the first two research questions out of the introduction chapter. First the history of doping and enforcement in cycling will be addressed, then the most influential institutional developments will be taken into account. In analyzing how the doping culture outwitted the authorities it is necessary to identify the relationships and responsibilities of each actor in the process. The international anti-doping policy underwent several elementary changes during the research span and these changes need to be addressed in order to clarify fluctuations in the dependent research variables later on. At the end of this chapter these events will be summarized in the timeline in figure 5. After this chapter it should become clear which responsibilities all involved authorities have had during the research period. The national sport and anti-doping federations are very important stakeholders in the development of the anti-doping policy. Then before the hypotheses can be answered first the institutional differences between the Netherlands, Germany, France and the USA will be discussed in chapter 5 and chapter 6.

4.1 Introduction of the cases

Before going into the de deep history of cycling and doping abuse first the four selected cases will be shortly addressed. Factors like backgrounds and culture will be discussed and especially the people and time period in which the team was active shall be important, within and outside the research span as well.

4.1.1 Case 1: US Postal Service

During the first year of the research span in 1998 US Postal Service was registered as an American cycling team active on the international highest professional level, TT1 license at that time. The team was originated from an amateur team called Subaru-Montgomery and became professional in 1996. The team was over his entire period active under an American license. In 2005 Discovery Channel took over the lead as main sponsor and the team excised until the end of 2007. US Postal Service team is generally known as the most widespread proven team doping culture since the Festina affair. The biggest part of the team has been existed out of Americans, but several nationalities were represented. The team has had not that many doping cases among the team leaders in the active part but nevertheless they were always suspicious according to the media. Later on in 2012 the USADA report unmasked the team as a wide spread doping network, including confessions from several team leaders such as Lance Armstrong, Floyd Landis and Tyler Hamilton (USADA Report, 2012).Team leader Lance Armstrong, by many people seen as spindle in the web, gained that much media attention during the rise and the fall of his career that his doping case was even highlighted in an Hollywood movie, The Program[2]. Lance Armstrong rode for the team from 1998 until 2005, that time Armstrong worked narrowly together with team manager Johan Bruyneel. After the US Postal Service team quitted Bruyneel became team manager of Astana for two years, where he also introduced some former team members. Thereafter he started his own new team Radioshack. Radioshack existed until 2011; Bruyneel nowadays is suspended as team manager. The first origin of cycling federation Cycling USA was found in 1920. The doping authority USADA was created in 2000, mainly initiated by the American Olympic movement USOC[3].

[2] http://www.cyclingnews.com/news/lance-armstrong-film-the-program-review/ (2016, January 7)
[3] http://www.usada.org/about/independence-history/ (2016, January 7)

4.1.2 Case 2: Rabobank

Just like US Postal Service the Rabobank also originated in 1996 although its precurser sponsors Buckler-Colnago-Decca, Wordperfect and Novel software already were active on the highest TT1 level from 1990. The Netherlands have had several teams on the highest professional level although Rabobank was leading in the Dutch culture and the only one who was active during the entire research period. After the USADA report in 2012 came out the Rabobank quitted their sponsoring activities however the team still exists in 2016, successor sponsors are Belkin and Lotto-Jumbo. After the sponsorship change in 2012 the management was researched extensively and partly renewed. The most important link between the USADA report and the Rabobank team was Levi Leipheimer. Leipheimer rode for both US Postal and Rabobank and confessed his doping usage and the organized doping cultures in both teams. Following this confessions Winnie Sorgdrager (2013) extensively examined the doping culture in Dutch cycling. Sorgdrager (2013) concluded a doping network within the team and proved the understanding of the team management. Former team leaders like, Thomas Dekker, Michael Boogerd, Michael Rasmussen confessed their doping usage and Denis Menchov was also suspended. Reportedly there was a doping network surrounding the period from at least 2004 until 2008[4]. Dutch cycling has a long history in European cycling with several top wins. The Dutch anti-doping culture was known as reasonably solid, however thus appeared to be wrong (Sordgrager, 2013). The Dutch federation KNWU was established in 1928 and the doping authority Dopingautoriteit started in 1989 under another name. In 1999 equally to the introduction of the WADA control of doping became one of the main tasks and the Dopingautoriteit found its name in 2006 after a merger between two institutions[5].

4.1.3 Case 3: Team Telekom

The German Telekom is another big and leading team out of the EPO era in professional cycling and was already active from 1991. The team originated out of team Stuttgart-Merckx-Gonso that already was active in the highest level in 1989. Therewith Telekom is the oldest team of the selected cases. Telekom, whose sponsor name later changed into T-Mobile, was active until 2007. From 2008 through 2011 they went further as team Colombia, with thereafter HTC and High Road as main sponsors. In that latest period from 2008 the team changed their home country license from Germany into an USA license. From Doping perspective the team is known about their organized team doping from 2004 through 2006 surrounding riders as Andreas Klöden, Matthias Kessler, Jan Ullrich and Erik Zabel, examined in the Freiburger report (2009). These riders were involved in several doping investigations with team leader Ullrich in the Operation Puerto in 2006 as most striking case. Jan Ullrich was known as the biggest Tour de France rival of Lance Armstrong in his best years. Equally like US Postal Service there were always several doping rumors during their glory days. Despite not all the allegations were proved officially, most of the team leaders confessed their doping use already before the USADA report came out. The German media were extremely hard in their discretion surrounding the doping allegations which finally resulted into a complete cycling ban on national television (Freiburger expertenkommission, 2009). The German cycling federation BDR was established in 1884[6] and their doping authority NADA was originated in 2002.

[4] http://www.cyclingnews.com/news/doping-was-a-way-of-life-at-rabobank-says-thomas-dekker/ (2016, January 7)
[5] http://www.dopingautoriteit.nl/dopingautoriteit/organisatie/ontstaansgeschiedenis (2016, January 7)
[6] http://www.rad-net.de/modules.php?name=html&f=bdr/statistik.htm (2016, January 7)

4.1.4 Case 4: Cofidis

Team Cofidis is different from the other teams and is the smallest team amongst the selected cases based on budgets and historical achievements. Although Cofidis has been active from 1997 until now, and even with the same main sponsor, it is not active anymore at the highest World Tour level. From 2010 Cofidis is Pro Continental Team but until now they always have been invited for the Tour de France. Through the history of the team Cofidis have had many doping incident however there was never found evidence for an organized doping network. Most famous doping cases are the incidents of Frank Vandenbroucke, David Millar, and their team suspension in 2004 and Cofidis voluntarily Tour abandon after a positive test of Cristian Moreni in 2007. The French anti-doping culture is always known as very strict with heavy penalties and also the French media contributed in the raid against doping, the more remarkable it is that the Cofidis sponsor has endured all those incidents. French cycling is especially affected by the accommodation of the biggest race in the world, the Tour de France. French doping authority AFLD played a crucial role in the development of doping testing and performed a lot of tests during the biggest event in the world. French cycling federation FFC was established in 1881 and anti-doping agency AFLD originated in 2006 in line with the WADA Code, successor of the CCLD out of 1987.

4.2 History of governance in cycling

The emergence of modern cycling started at the end of the 19th century with the organization of the first important international races which are nowadays known as the “classics”. Examples are Milan San Remo, Paris Roubaix, Liège Bastogne Liège, Milan Torino and the Giro di Lombardia. During that period also the first national cycling federations emerged. The first attempt to international organization of cycling was already performed by the IOC when the cycling sport was part of the first modern Olympic Games in 1896. In order to remain included at the Olympic Games the IOC demanded an international recognized umbrella organization. Initiated by the national federations of Belgium, French, Italia, Suisse and the United States the UCI was founded in 1900[7]. All these developments came pretty soon after the invention of the modern bicycle with chain transmission at the end of the 19th century like we all know the bicycle nowadays. In 1928 the Netherlands was relatively late with the introduction of the KNWU (Historie KNWU, 2014). Then later on in 1965, also initiated by the IOC in relation to the Olympics, the organization of cycling was divided in an international amateur federation (FIAC) and an international professional federation (FICP). This distinction took place because the Olympic committee only wanted to allow amateur athletes in their event. The UCI always remained the umbrella organization above both bodies however in 1992 the split became undone so the UCI was the only leading body again (Heijmans and Mallon, 2011, pp. 78).

4.2.1 Historical doping abuse

According to Møller (2008) doping was introduced in sports around the 1850’s. The cyclists pioneered the use of doping because of the urge for increased endurance during the six-day cycling events. The cyclists took primarily mixtures of sugar, caffeine, heroin or cocaine. Since 1896 the cycling world has experience a series of doping related deaths. By the 1920s it had become evident that restrictions regarding drug use in sports were necessary[8]. According to Christiansen (2005) the authorities failed to do anything about that problem because there were no tests available, there

[7] http://www.uci.ch/inside-uci/about/history/ (2015, May 27)
[8] https://www.wada-ama.org/en/who-we-are/a-brief-history-of-anti-doping (2015, May 27)

were fewer breakthroughs in as well training, technical and medical development. There has always been a progressive attitude among cyclists towards the medical and technological products made available by modernity developments. Nevertheless it took until 1960 when the doping problem was recognized in the European Council. The first prohibited list of banned substances was introduced after Tom Simpson's death on Mont Ventoux during the Tour de France of 1967. From the 1960's the amphetamines became available but most of the cyclists could not effort them in the beginning. In the mid 1960's the first doping tests were performed in the professional peloton, but at that time most of the riders were fully opposed these tests because doping became part of the sport. From this period the use of drugs slowly became hidden from public scrutiny, while the use did not reduce. Thereafter the IOC and the UCI dealt with several new medical developments like anabolic steroids, blood doping and EPO. Though the attitude against doping was changed after the 1960's, the battle against the individual doper was more or less accepted as an ordinary fight. Until the Festina affair in the Tour of 1998 marked a turning point in this battle (Christiansen, 2005; Hanstad, Smith and Waddington (2008); Wagner, 2010). The Festina affair is generally accepted as the ultimate proof for team organized doping, especially in the EPO period in the 1990's. This affair transformed the battle against doping into a cultural battle of way bigger scale than ever expected before.

4.2.2 Establishment WADA

The Festina affair in cycling was the ultimate signal for the IOC that the battle against doping needed some fundamental changes (Foschi, 2006). In the Festina affair the complexity of the problem became clear for the big audience when the TVM team quitted the Tour of 1998 once they crossed thet Suisse border (*Andere Tijden Sport, 2014*). It appeared to be hard to enforce the anti-doping policies in so many contexts, but for the international athlete also the transparency was lost. The battle against doping was very hard because it lacks uniformity among as well sports and countries. As a result the IOC organized a world conference about doping in sports on February 1999 in Lausanne. This conference sought to create an independent international agency to coordinate the efforts of sports organizations and public authorities, which would encourage, coordinate and control the enforcement in the battle against doping. The resulting organization WADA came officially into being on November 10 1999 (Foschi, 2006). From then the WADA was the leading organization in the international battle against doping with policy coordination as their main task. Besides they are also performing scientific research, providing education and launching new anti-doping initiatives. The first important step for the WADA was in September 2000. The first out of competition controls were performed prior to the Olympics in Sydney, already initiated before the establishment of WADA by the IOC. Then in the second world conference in Kopenhagen the World Anti-Doping Code (WADC) is approved, become into force at the first of January 2004. The WADA Code was the biggest step in creating uniformity among the sports and nations. WADA Code resulted in the international equality of rules, banned substances and sanction. WADA Code includes an international compulsory list of prohibited performance enhancing substances, testing and prosecution procedures and also the Therapeutic Use Exemptions (TUE's). In 2005 the Anti-Doping Administration and Management System (ADAMS) was became operational as one complete database. In 2009 the improved second version of the WADA Code was implemented. The most striking measure of the second WADA Code was the introduction of the biological blood passport, which was the first possibility for the authorities to sanction doping abuse indirectly over a periodical time instead of single tests.

4.2.3 The organization of the individual cyclist

The main relationship in this research is the relation between the individual cyclist as potential doping user and the common authorities who are responsible for enforcement. Because of the complex mutual relationship between the authorities and other intermediary parties this research is very hard to explore thoroughly. Following the organization of professional cycling will be addressed, thereafter the roles, functions and responsibilities of the main organizing authorities in the policy of enforcement. Simplified each cyclist must apply for a cycling license at their national federation, for instance the KNWU in Holland. The country of this federation is not necessary equal to the cyclists their nationality but should be their home country of living. The type of license determines in which category races a cyclist may start, in national or international races. For the professional races the Elite license is required and this license is for instance restricted with medical tests and a labor contract. Also for affiliated functions in the accompaniment of teams and races a license required that shall be released by the national federation. Another and more visible relation is the cyclists' relation as employees of their professional teams. The provision of local teams is the responsibility of the KNWU, in case of Holland, and the provision of the international licenses is a task for the UCI. The type of team license determines which individual license a cyclist should have, professional or not. The home country of international teams is dependent on a choice between their sponsors' home, their payroll home and the team location. The home country matters for things like taxes and conditions of employment but also for framework licenses. Usually cyclists may only compete in races as members of their teams, only exceptions are races like the world championships with their national team and the national championships. The race organizations are independent organizations in cycling but they also should apply for a license. For national races the national federations are responsible, for international races the license committee of the UCI is responsible. These ranks are determinative for the calendar that the races take part, several racing restrictions and the number of teams from each level that is allowed to invite. Then on yearly basis, the UCI composes the calendar of the world tour license races, the five continental federations are finalizing their continental calendar and finally the national federations are responsible for their national calendar, in the Netherlands the KNWU. The Amaury Sports Organization (ASO) is the biggest and most influencing race organization in the world together with the other race organizations united in the AIOCC. At their turn the teams are united in the AIGCP and the riders individually in the CPA (Morrow and Idle, 2008). Important intermediary in the relationship between the UCI and the cyclist is the Court of Arbitration for Sport. CAS is leading in sport jurisdictions in case of disputes (UCI, 2015).

4.2.4 Organization of enforcement

The WADA is responsible for all anti-doping related matters worldwide. The WADA translated their responsibility in two important documents; the list of *International Standards* and the related *Guidelines and models of best practice*. The UCI formulated its own anti-doping rules (UCI, 2015), but as an international federations they choose to comply with the WADA Code which means that all applicable documents and regulations of the WADA are been incorporated. Their mutual relationship is displayed in relational scheme of enforcement in figure 4. The doping rules of the UCI are in force for all members of the UCI and the national federations. For the international riders the UCI composed the *UCI Registered Testing Pool*, which is also a restriction to be part of for riding as a professional cyclist. The UCI shall develop and implement and effective sample testing distribution plan of the registered testing pool. The tests will be executed by the UCI itself and largely delegated to the national doping federations. The WADA as a supportive body delivered the most useful tools

such as the Biological passport and the ADAMS administrative system. In the first place the UCI is authorized to test all national and international members as well in- as out of competition. However the UCI thus delegated tests and control to the national doping federations in the competitive cycling countries. The UCI performs and is responsible for the costs of in- and out of competition tests surrounding UCI events, such as the world tour races and world championships. The national authority, the KNWU in the Netherlands, is responsible for the out of competition tests of world tour athletes, and for in competition tests in all Dutch races. For world tour events a cyclist theoretically could be controlled by the WADA and the KNWU as well. From these in competition tests the several organizing events are responsible for the costs of in competition testing and the authorities are responsible for the costs of out of competition tests. Subsequently the doping samples will be controlled in WADA accredited or WADA approved laboratories. Besides the WADA is also always authorized to test in- or out competition, but in practice that happens only in exceptional circumstances. The WADA is not a testing agency but they are responsible for all anti-doping related matters worldwide, they may test based on request of the UCI or relevant doping federations, but the WADA is also able to act on its own initiative (UCI2, 2015). Figure 4 shows the mutual relations and responsibilities of the involved actors.

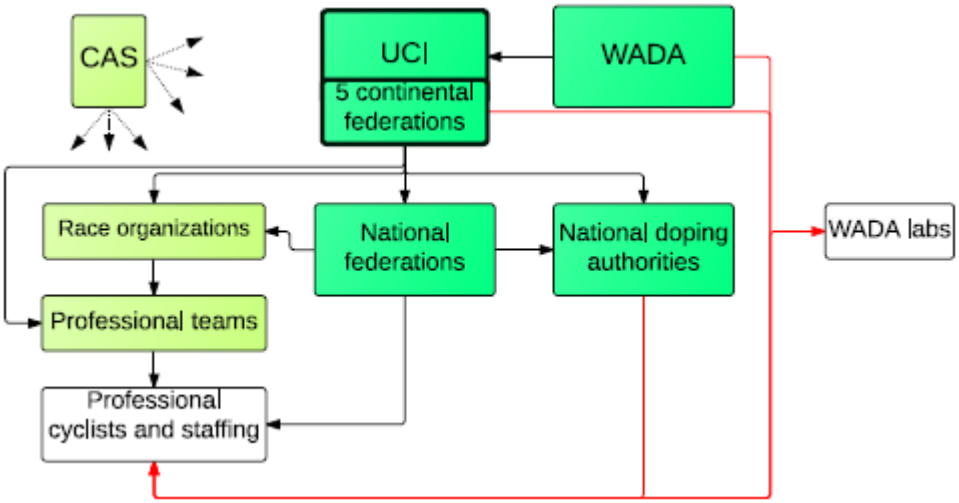


Figure 4: Simplified authority relation scheme of enforcement

4.3 Responsible anti-doping bodies

The most important anti-doping parties will be further explored. The professional cyclists and staffing fall under the scope of the anti-doping rules and are liable in case of violations. The WADA accredited and approved laboratories are independent organizations with no further responsibilities than analyzing the received samples. The other parties in the scheme need further explanations.

4.3.1 UCI

The UCI is the main organizing authority in the world of cycling, besides road racing the UCI is also leading in other disciplines like; track racing, mountain biking, cyclo-cross and BMX. The executive body that manages the UCI is the UCI Management Committee. The Management Committee exists of elected people including the five presidents of the continental federations, who are representatives of all national federations. The Management Committee task is to establish regulations, appoint championship organizations and to set up commissions in the interest of cycling. Therefore the UCI exist of lots of commissions; a commission for each cycling discipline, anti-doping commission, several license commissions, medical commission, developmental commission and so

on. Most of the commissions have an indefinitely character however there are also temporary commissions such as the research commissions[9]. The commissions are mostly independent however in practice the committee members are active in several commissions through the world of cycling due to the amount of commissions. The UCI is the legislative power in terms of policy making and also leading in the anti-doping strategy. They accredited the national federations to implement and perform their policies on a national level. The anti-doping program of the UCI is independently accommodated in the CADF commission, before 2008 the tasks of the CADF were performed by the ADC (Anti-Doping Commission). The CADF is amongst others responsible for formulating and the implementation of the riders testing strategies.[10] They should provide the best possible controlling circumstances for the doping authorities, this led for instance in cooperation with the WADA to the introduction of the biological passport and the ADAMS system. CADF delegated the doping controls to the national doping authorities, sometimes direct, sometimes via the national federations. Then the UCI is also responsible the establishment of race- and team licenses. And for planning the race calendar and organizing and doping control for the world championships. The UCI is also responsible for the regions were no doping authority is available. The UCI is mainly funded by the revenues of the license holders, IOC income share of the Olympics and the organization of the world championships and its accompanying TV rights (Annual report UCI, 2013).

4.3.2 National federations

The UCI has the monopoly in organizing professional cycling thus the national federations are bounded to the UCI if they want to compete on international level. The national federation of the Netherlands is the KNWU, the USA has USA cycling, in France there is the FFC and in Germany they know the BDR. The national federations are obliged to follow the international policy of the UCI in case they want to be part of the cycling movement. Each single national federation is in its own country responsible for the implementation and execution of the international policy. Their main task is to provide licenses for all individual athletes and staff. And provide licenses for the national teams and race organizations. Also they have to compose the national calendar, including the organization of the national championships. Then the national federation provides the rules and regulations of the sport including anti-doping, as adopted and translated from the UCI, and the UCI on their turn from the WADA. The federations are responsible for the enforcement of the rules, but the executive doping controls are performed by the national doping authorities. In some cases the collaboration between national federation and doping authority is direct, sometimes via the UCI. Then in case of violations the national federations have the judicial power to punish cyclists or their accompaniment (UCI2, 2015).

4.3.3 WADA

The UCI voluntarily affiliated to the WADA since the establishment of the WADA. This means that the UCI is attached to the rules and restrictions as set by the WADA regime. Most striking examples are the length of sanctions, the prohibited substances list and test regimes (Wagner, 2010, p. 325). The UCI is forced to implement and perform the anti-doping policy as long as they remain aligned. WADA can be seen as an independent and supportive body of the UCI. Main function of the WADA is to stimulate better doping enforcement and to ensure equal anti-doping testing conditions in every

[9] http://www.uci.ch/inside-uci/organisation/ (2015, May 27)
[10] http://www.uci.ch/clean-sport/anti-doping/ (2015, May 27)

sport, country and event[11]. The WADA is aligned to most of the bigger sports in the world, the great American sports such as Baseball, Basketball and American Football are exceptions. The WADA funding is sourced equally by the Olympic movement and governments all over the world (WADA, 2006). The regular doping controls are usually delegated to the national doping federations but the WADA is responsible for equal and doping free sports all over the world, and with that duty the WADA is allowed to perform doping (re)tests and prosecutions wherever they consider it as necessary. The WADA could test and re-test on its own initiatives but also on the initiative of the UCI.

4.3.4 Doping authorities

Then the national doping authorities are independently from the UCI performing the doping controls, however they need to be accredited. In the Netherlands the dopingautoriteit is the responsible body, in the USA the USADA, in France the AFLD and in Germany the NADO. They are all initiated by the Strasbourg convention in 1989 when all participating countries agreed to set up national doping coordinating bodies, also the USA participated as non-European country voluntarily[12]. Later on, in 2005, a broader set of nations agreed to the UNESCO convention[13]. The UNESCO convention changed governmental anti-doping approach by law, for many countries the occasion to rename their national doping authorities. The national doping authorities are acting in between the guidelines of the UCI, although they should be able to make their own testing choices. These out of competition testing choices are partly based on random selection and partly based on input out of the biological passport and guidelines from the CADF. Besides, the authorities are also performing regular in competition tests. In that case the authority works in function of the event organization. When the doping authorities are performing the tests not properly the UCI and the WADA as well both have the power to overrule them and perform their own doping tests. In practice many doping authorities are working together with the national federations for preventive purposes.

4.3.5 Race organizations

Organizationally the race organizations are independent organizations on their own. Although they might have influence on doping issues, in terms of governance these parties are submissive in relation to the authorities. If they want to be part of the international cycling world they are restricted to the rules, supervision and enforcement of the UCI and its collaborative authorities. The race organization should apply for a license at the UCI or national federations, dependent on the lever of the license. The race organizations are restricted to collaborate with the national active doping authority in their country. Of course the organizers of the greater races have a bigger saying opposed to the smaller races. Race organizations like the ASO who organized many races are pretty powerful due to their monopolistic position, as organizers of unique races.

4.3.6 Teams

In history the teams did not have a responsibility in the battle against doping. However since the doping culture became clear to the UCI the teams gained more responsibility. In the first place the whole accompaniment of a team also should have an UCI license from which they could be punished on possible violations. Besides also the teams on itself might get sanctions, with repeal of the team license as highest sanction. In this research we treat the teams of Rabobank, US Postal, Telekom and

[11] https://www.wada-ama.org/en/who-we-are/anti-doping-community/athletes (2015, May 27)
[12] http://www.coe.int/t/dg4/sport/Doping/convention_en.asp (2015, May 27)
[13] http://www.unesco.org/new/en/social-and-human-sciences/themes/anti-doping/international-convention-against-doping-in-sport/ (2015, May 27)

Cofidis. Indirect the jobs of the whole accompaniment are dependent on the team results. That could be helpful in approving and disapproving doping use as well, dependent on the general understanding of doping use in cycling.

4.3.7 CAS

The Court of Arbitration for Sports is founded in the beginning of the 1980's. The CAS is the jurisdictional body in sports that is applicable for all sports and every stakeholder in between the sport. In practice the CAS is always been a good and effective body, although they don't have actual juridical power. Possibly some cases could develop wrong, then there always remain the possibility go to an actual national court.

4.3.8 Responsibility network at research starting point in 1998

Foschi (2006) explained the pre-WADA regime very clearly. Before the establishment of the UCI the doping regulations were conducted by the International Olympic Committee (IOC), the head of the Olympic movement. Since the establishment of the UCI 1900 they are charged with creating rules, organizing race calendars and establishing criteria for the selection of Olympic teams. Under the UCI the national governing bodies act nationally in each affiliated country. Besides, each country that participates at the Olympics also has a national Olympic committee. The National Olympic committees were responsible for the participating athletes at the Olympics, but their authorities above the National Governing Bodies differ per country. The IOC was the leading body in the battle against doping because they determined the doping list and the testing procedures but they only performed doping controls at the Olympics. However outside the Olympics the UCI regulated its own tests, procedures, doping lists and determined its own timing and frequency. Since the 1980's there was the Court of Arbitration for Sports (CAS) to solve conflicts and determine jurisdiction as independent organization[14], though it was hard to deliver a decisive contribution in jurisdiction because of the inconsistent network among countries and sports (Foschi, 2006, pp. 459-461). This was an explanation of the organization of cycling and enforcement before 1998, the start of the research period. Following all changes in this organization will be addressed in order to declare possible change in doping usage. The changing context shall be addressed from perspective of the international view. First the changes will be drawn broadly, but finally the following chapter will end up with histograms and one leading time line.

4.4 The institutional context: trends in policy and enforcement

With the treatment of the institutional context this paragraph focusses more on the second research question out of the introduction chapter. The understanding of the institutional context is important because it might have been causal for fluctuations in the dependent variable. The institutional context thus serves somewhat as control variable for possible third explanations in doping usage in teams. The set of institutional developments is distracted from the theoretical term environmental munificence, out of principal agent theory. Environmental munificence represents the third explanation for costs of information asymmetries out of principal agent theory and basically comes down to the possible lack of any kind of resources. In this context environmental munificence implies to describe the factors on which the UCI did not or only partly have influence on, within the given context. Mason and Slack (2005) translated these questions of environmental munificence into

[14] http://www.tas-cas.org/history (2015, May 27)

resource constraints regarding the principal agent theory. These factors should describe all institutional chance and including the accompanied scarcity of resources.

4.4.1 Complexity of enforcement in cycling

The UCI is responsible for enforcement and implementation of the anti-doping rules in cycling. As the central assumption in this research based on Mignon (2003) suggests, apparently the UCI failed to do that properly. However that does not necessary mean that the doping culture is attributable to misbehavior or negligence of the UCI. The CIRC report endorses the complexity of doping abuse in cycling. In the first place cycling is an endurance sport, especially characterized by the physical demanding three week grand tours. Besides the CIRC commission explained the complexity of monitoring due to the physical distances of individual athletes within the teams. The suffering that results from the huge physical efforts means that cycling is a high-risk sport compared to others when it comes to the likelihood of doping use. Additional the CIRC commission mentioned the economic instability of the sponsorship dependent teams versus the powerful race organizations as a risk factor for doping use among cyclists. Financial uncertainty could possibly lead to doping abuse because the scarcity in professional cyclists and accompaniment increases. Thus resource constraints among teams and individual cyclists might be an explanation for doping use because environmental events could harm their paid positions in the professional peloton. To what extent these constraints are linked to doping use should be determinative for the contribution of the UCI to the doping issues.

4.4.2 Physical factors for doping usage

Besides the CIRC report, also several scientific articles emphasized the physical demands of cycling in relation to doping use (Mignon, 2003; De Bruijn, Groenleer and van Ruijven, 2015). Indirectly more resource constraints could also follow to higher physical demands for an individual, because the fear for possible limitation of paid jobs in cycling could exceed individual anti-doping norms. The limits of the physical demands are being determined by the UCI by distributing the licenses. Mason and Slack (2005) mentioned a lack of legal means among the athletes as a possible factor doping use. Then it will be questionable to what extent doping use is caused due to these demanding factors versus individual performance incentives. When the physical demands of cycling are too high then the authorities are overestimating the agencies capacity which is called agent ignorance in principal agent theory (Mason and Slack, 2005). The other way around could it also be possible that the individual incentives from these physical demands combined with a lack of legal means among individuals are decisive factors for doping use. This is called moral hazard in principal agent theory (Mason and Slack, 2005).

4.4.3 Other trends and events during research period 1998-2014

An important factor for possible doping abuse according to the UCI was the structure of the race calendar, in 2005 transformed into the Pro Tour. An initiative to rank races on importance with clear restrictions in terms of price money, starting rights and starting duties for the bigger teams in order to ensure consistency. This process completely changed the calendars and from then the UCI have had more control on aspects such as race length and promotion matters for teams. Like already cited by Sigman (2008) also the inflated influence of money and sponsor interests is very important in cycling. The interests and money in the sport did not change notably over the research period however the financial crisis might have had its role. Due to quitting sponsors the lack of consistency behind the business model became clear which might have influenced individual cyclists who were afraid for their jobs and paychecks in the end of their contracts. Then also the development of the

political cycles becomes very clear out of the history of the UCI, new initiatives are often directly initiated by political campaign or indirect scandal driven (Hanstad et al, 2008, p. 229). The UCI chairman has to be elected and therefore should have a campaign with a specific research agenda.

4.4.4 Corruption in UCI

Another important factor in the battle against doping might be corruption inside the UCI. Corruption might harm indirect many organizational factors but in practice there is no hard evidence for any scandal, like also the CIRC report encountered. However there are lot of signals for possible misbehave, one of the most known investigations is the Makarov report. The Makarov report is a leaked report from an inside UCI commission headed by the Russian sporting director Igor Makarov. The Makarov reports states that they found clear evidence of corruption in the time period from 1999 until 2010 when Hein Verbruggen en Pat McQuaid where responsible for the UCI its policy, referring to suspicious circumstances and money transfers surrounding Alberto Contador and Lance Armstrong. Verbruggen and McQuaid always refused these accusations[15]. Further in this research corruption will be treated as a possible failure of enforcement.

4.4.5 Responsibility network at the end of the research period in 2014

Summarizing it might be useful to explain the responsibility network in which the institutions collaborate nowadays. Due to especially the WADA Code the mutual difference between the nations decreased a lot (Houlihan, 2002). However there remain differences in terms of allocation of budgets, administrative effectiveness, anti-doping campaigns and communication. The WADA is the leading body in the international fight against doping and is charged with anti-doping developments and setting international standards in cooperation with the national sports and anti-doping federations. In terms of restrictions the UCI is responsible, but in return for collaboration and support the UCI choose to comply with the WADA code. Besides, WADA is already related to the sport federations of Olympic countries in accordance with the IOC. Thus the UCI is obligated to stick to the WADA guidelines like the prohibited substance list, test and procedural standards, the biological passport program and the therapeutic use exemptions. However the WADA code applies for all top sport qualified sports. Although the WADA perform more tests in a doping sensitive sport like cycling, it is the responsibility of the UCI to solve their own structural problems. Thus the UCI should bring up new initiatives and govern to a doping free sport. This mutual power relationship might be a factor for the sensitive relationship between the WADA en the UCI as the CIRC report describes. The racing preconditions like the amount of racing days, race length, medical assistance, pelotons culture and rewarding systems are crucial in the battle against doping. Nationally there is no way to force countries to join the WADA code, however most determining countries in sports like the ones in this research are connected. Executively the national anti-doping federations are charged with implementing the anti-doping policies as derived from the WADA. Their tasks mainly consist of planning and performing executive doping tests and its associated prosecutions. But also education for athletes, coaches and children is very important. The national sport federations are performing the UCI its policy and they are among others responsible for a part of the anti-doping federation funds. In the end the anti-doping federations are leading in the national battle against doping. For doping control cyclists are dependent on the country they live in, that might differ from their

[15] http://www.cyclingnews.com/news/mcquaid-and-verbruggen-accused-of-corruption-in-report-summary (2015, May 28)

nationality. Each country has its own national sports arbitration court. But more common in sports jurisdiction is the international Court of Arbitration for Sports (CAS) (Wagner, 2010).

4.5 Development doping initiatives

Then besides institutional change, also some of the most important anti-doping related initiatives will be summed up. This following list should encounter all the possible initiatives and collaborations out of the public resources that might have been effective on the dependent variable in this research, doping usage in teams. This paragraph especially should provide some insights in the development of doping attitudes of the international institutions. It is obvious that the institutions are against the use of doping however the awareness of the extent of the doping problems represents the start in the willingness of tackling the problems. As already discussed in the methodology chapter, institutions are independent bodies without an own voice thus it will be more reliable to measure the attitude with actual doping related actions instead of statements from representative individuals.

4.5.1 Count of international anti-doping actions

This variable is meant to declare the effects of new and sharpened anti-doping actions related to individual attitudes towards doping. The question is to what extent institutional actions lead to a positive effect on the attitudes towards doping, possibly declared due to cautiousness regarding enforcement, but also due to a possible increased awareness of the doping problem. This question will be answered in order of the four divided contexts between the selected cases. The international actions from the UCI and WADA should be taken into account in order to provide a full picture of this effect. This variable especially concerns actions of notice under the individual cyclist.

- First attempt to medical monitoring instead of solely testing in the beginning of 1998, a more comprehensive test of 4 examinations per year; physical examination, blood analysis, cardiological test and an eyesight test (UCI, 2001).
- In April 1999 a renewed doping list of banned substances and methods was adopted by the UCI. [16]
- In July 1999 the first method of detecting corticosteroids was applied. [17]
- Establishment of the WADA in 1999 (Wagner, 2010). WADA is a new institution with its own responsibilities in the battle against doping.
- Introduction of divided blood tests in sample test A and sample test B, divided analysis. [18]
- Then besides comprehensive testing also a complete health program for cyclists was introduced in the beginning of 2000 (UCI, 2001).
- Glucocorticosteriods can be detected in anti-doping tests from 2000 (UCI, 2001).
- Introduction of the first EPO tests in 2001 (Wagner, 2010).
- First attempt to more harmonization of controlling procedures in the worldwide approach in July 2001 by setting up the anti-doping examination regulation, which was the first step to the WADA Code later in 2004 (UCI, 2001).[19]
- In April 2002 the UCI announced that it will increase the number of out of competition EPO tests in collaboration with WADA, amount of in competition testing will remain the same. [20]

[16] http://oldsite.uci.ch/english/news/news_2002/index.htm (2016, January 25)
[17] http://oldsite.uci.ch/english/news/news_2002/index.htm (2016, January 25)
[18] http://oldsite.uci.ch/english/news/news_2002/index.htm (2016, January 25)
[19] http://oldsite.uci.ch/english/about/rules_2004/ch14.pdf (2016, January 26)
[20] http://oldsite.uci.ch/english/news/news_2002/index.htm (2016, January 26)

- In May 2002 a renewed list of banned substances[21].
- Introduction World Anti-Doping Code (WADC) in 2004 (Wagner, 2010).
- In 2005 introduction of ADAMS administrative doping system with included whereabouts system. System is initiated by the WADA. The monitoring process is managed by the CADF.[22]
- At the same time the ABP system was introduced in 2005, Athletes Biological Passport system. This is the monitoring process of the blood values, thus an indirect measure of blood control.
- In August 2005 the UCI openly communicated the retests of the 1999 Tour samples, especially on EPO. [23]
- October 2005 international UNESCO agreement about national governmental responsibilities in the battle against doping[24].
- 2007- Pat McQuaid raised the anti-doping budget considerably (CIRC report), Wagner (2010) also mentioned this initiative as the "100% against doping pro-tour program".
- Introduction Biological passport in 2008 (Wagner, 2010; Annual report UCI, 2008).
- Creation of CADF in 2008, former ADC and ADU commissions (CIRC). Cycling Anti-Doping Foundation became independent from the UCI, mainly financial.
- In March 2008 the UCI committed to train the anti-doping inspectors better for quality and uniformity. [25]
- Revised and second version of the WADC in 2009, especially meant for more worldwide uniformity.
- In 2013 the CADF became fully independently from the UCI with the introduction of the LADS, Legal Anti-Doping Service (Annual report UCI, 2013).[26] Now is the battle against doping fully independent from the UCI and should legal proceedings go faster.

4.6 Time line

The time line is a complete overview of institutional, contextual or other changes that might have caused differences in the abuse of doping in cycling. This development is summarized in the following timeline of figure 5. WADA played a central role in the development of these factors. In their annual reports WADA presents all their initiatives and changing policies, however the time line is not about details and changes in the prohibited list, but pure about the contextual factors that might cause changes in the doping culture and collective behavior.

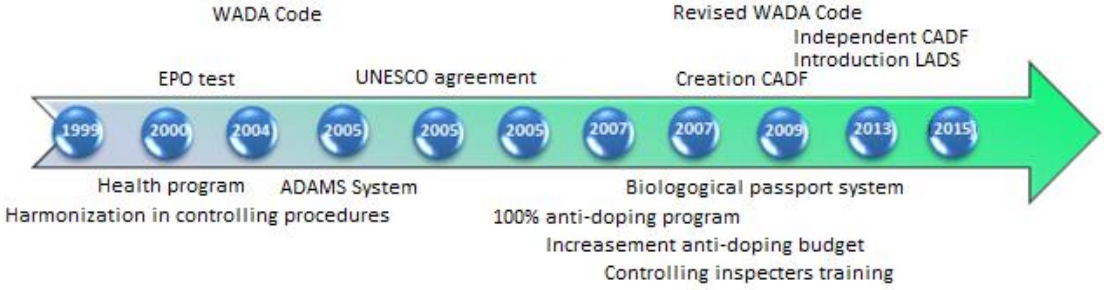


Figure 5: Time line of change in institutional context

[21] http://oldsite.uci.ch/english/news/news_2002/index.htm (2016, January 25)
[22] http://www.uci.ch/clean-sport/whereabouts-program/ (2016, January 26)
[23] http://62.50.72.82/modello.asp?1stlevelid=B&level1=12&level2=0&idnews=3699 (2016, January 25)
[24] http://www.unesco.org/eri/la/convention.asp?KO=31037&language=E (2016, January 26)
[25] http://www.uci.ch/news/article/the-uci-committed-training-antidoping-inspectors/ (2016, January 25)
[26] http://www.uci.ch/clean-sport/anti-doping/ (2016, January 25)

5. Independent variables: Enforcement

The enforcement process is elementary in the battle against doping and is characterized by the fact that it is performed in different contexts, namely countries. Following the independent variables of the first three hypotheses will be addressed. The dependent variable in this research shall be addressed in chapter 7. Nowadays the most national contexts look pretty much like each other due to alignments with the UCI and the WADA in many cases, but every country still houses their own processes with associated actors, responsibilities and especially interests. Exploring these factors per case could provide some insights in the rise of doping cultures because the responsibilities and interests in the enforcement process changed in each country over time. First the distribution of responsibilities per country case will be addressed, then the executive process of testing will be explored and finally several anti-doping collaborations will be treated.

5.1 Responsibilities and interests in enforcement

Hypothesis 1a states that a higher extent of delegations will be determinative for the quality of the monitoring process. Hypothesis 1a shall tests the effects of delegations in the enforcement process. The first independent variable is the distribution of responsibilities and interest in enforcement. The UCI is the leading administrative entity in cycling and responsible for the safety and development in the sport, thus also responsible for doping developments. Just like the national aligned federations they both have their interests in clean sports but also in a strong image for the sport or particular country. Avoiding conflicts of interests can be arranged by the creation of independent enforcement bodies. Independency can be created by dividing the tasks of enforcement, but independency also is a scale that can vary by factors such as the extent of financial independency or the possible existence of relations between people of the federation and the delegated authority. The extent of independency in the enforcement process will be discussed from international perspective. Thereafter the specific situation or possible deviations in the four cases will be addressed. An overview with count of independency creative events will be deployed in table 1.

5.1.1 Development of independency in the international enforcement process

Originally doping matters in cycling were treated by the UCI medical committee but when anti-doping matters started to dominate the work of the medical committee in 1992 the ADC was established, Anti-Doping Commission (CIRC, 2015). Thus at the start of this research period in 1998 international doping matters were subjected to the ADC, based on their task an independent committee however organizationally within the UCI. Task of the ADC was to devise and organize testing athletes testing, in other words the strategic and controlling task. Basically the only doping matters that were not performed by the ADC were the legal procedures. The staff of the ADC was very small and according to the CIRC commission people like Lon Schattenberg and Philippe Verbiest took *de facto* the lead in respectively the ADC and the legal department. However they were committed to their jobs both were not so independent from the UCI, Lon Schattenberg was as medical expert head of the Sports Safety and Conditions Commission and also member of the Medical Commission and lawyer Verbiest worked already in several terms for the UCI from the 1980's. For instance the CIRC report mentioned that Schattenberg informed teams about new tests and procedures. Also UCI's leadership was informed and involved in ADC anti-doping matters. In 2003 the ADC was turned into the ADU, Anti-Doping Union. In 1999 the UCI aligned to the new established WADA, the anti-doping policy thus became more independent from the UCI (CIRC, 2015). WADA was responsible for international anti-doping development and was also authorized to

perform or instruct specific tests (Foschi, 2006). Waddington (2010) mentioned that the introduction of the WADA Code in 2004 obliged cyclists to stick to the whereabouts system, which makes the strategic process more objective thus also independent. The WADA Code also meant uniformity through international substance lists and lab accreditations by the WADA. This whereabout system was more elaborated in 2008 with the introduction of the biological passport and the ADAMS system (Waddington, 2010). Then in March 2008 the foundation CADF was created, Cycling Anti-Doping Foundation. CADF is its own resource funding established as successor of the ADU (CIRC, 2015). According to CIRC the CADF was not as much independent is the previous suggests. The CADF staff did not change from the former situation and remained headquarters within the UCI. Furthermore the CADF still worked together with UCI personal and received UCI leadership directions. In 2013, after a KPMG report the UCI decided to provide the CADF more independency. The UCI president was no longer chairman of the CADF foundation board and later on the board was completely renewed with people that hold no relations to the UCI. The CADF became more independent from the UCI in 2013, however still collaborates with the UCI for educational matters and receives contractual priorities in their testing strategy from the UCI. Legally in 2013 the Legal Anti-Doping Service was established, the LADS was the new legal department and completely independent from the UCI (Annual report UCI, 2013).

5.1.2 World conventions

History learned that national delegations from governmental perspective are dependent on international agreements. International anti-doping was to some extent centralized in Europe since the Strasbourg convention in 1989, signed by 52 states[27]. The Council of Europe (n.d.) explained in their information leaflet that all participating countries were obligated to create national anti-doping coordinating bodies, improve detection techniques, use accredited anti-doping labs and support anti-doping educations. As participating countries the Netherlands, Germany and France were obligated to stick to these measures. The USA participated as observer state and thus was not obligated to these measures, but the USA also founded their national coordinating body. Later in 2005, initiated by the WADA developments, there was a worldwide broader convention signed. Sorgdrager (2013) mentioned that 191 members signed the UNESCO International Convention against Doping in Sports, finally accepted by the USA, the Netherlands, Germany and France as well. This convention obligated countries to make international law based on the WADA Code, and restricts countries to facilitate doping controls and to support educations. The countries are flexible in how to apply these measures organizationally however the UNESCO agreement require specific responsibilities for the governments in the battle against doping. The measures will be summarized in table 1.

5.1.3 US Postal case

As non-European state, the USA was already observer state from 1995 in the European council[28]. As observer state the USA was not obligated to participate, but they also founded their own coordination anti-doping body, the NADP. The NADP was part of the USA Olympic committee USOC (Tygart, 2003). Because the NADP was organized by the USA Olympic committee they were not independent because the USOC financially and performance wise have had interests in strong USA athletes performances. In 2000 The USADA succeeded the NADP as national coordinating doping authority. With its introduction the USADA became independent from the national Olympic

[27] http://www.coe.int/t/DG4/sport/Doping/convention_en.asp. (2016, March 6)
[28] http://www.coe.int/nl/web/portal/united-states. (2016, March 6)

movement and is funded through a grant of the US government and again the US Olympic committee (USADA annual report, 2001). The USOC have their interests in providing money for enhancing their anti-doping image, strategically they have no influence anymore. USA's cycling federation USA Cycling aligned to the WADA Code in 2004. The USA government endorsed the UNESCO convention in 2008 from which they agreed to their governmental responsibilities, in 2011 the USA accepted the national law; *Miscellaneous Anti-Drug Abuse Provisions*[29].

5.1.4 Rabobank case

The Dutch government is always been member of the Council of Europe during the research period, thus also of the anti-doping agreement from 1989. During the first year of this research period in 1998 doping controls in Dutch cycling give anti-doping educations[30]. In 1999, in accordance with the introduction of the WADA, the DoCeNed was founded in order to enhance to focus and count of doping controls. Both foundations were funded by the NOC*NSF and the Dutch ministry of public health, welfare and sports and merged in 2006 into the Dopingautoriteit. The Dopingautorieit was financially independent from the UCI however they could get testing instructions from the CADF, former ADU, the KNWU and the WADA. In case of positive tests the KNWU is responsible for sanctioning. In 1998 the KNWU had its own sanctioning procedures but in 1999 they followed the WADA. In 2006 the Netherlands agreed to make legislation based on the UNESCO convention and in 2007 the Netherlands accepted the new anti-doping substance law; *Vaststelling nieuwe geneesmiddelenwet*[31]. And in 2009 the Dutch federations connected their selves to the ISR, Instituut Sportrechtspraak, from which the KNWU delegated legal doping procedures to the ISR (Sorgdrager, 2013)

5.1.5 Telekom case

Germany also contributed to the Strasbourg convention and knows from that agreement his national anti-doping authority, however the German authority was established slightly later opposed to the other cases, the NADA was established in 2002. Germanys' NADA is funded by national government and also conformed to the WADA Code starting 2004. Germany already had an anti-doping commission but was not independent from the Olympic committee, first DSB and later Anti-Doping Commission ADK. In 2007 the German government endorsed to the UNESCO convention, which immediately resulted in a threefold lawmaking[32]; *Draft Act to facilitate Anti-Doping Measures in the field of sport*[33], and in 2011 the accepted the WADA prohibited list by law. Besides, Germany also accepted a national anti-doping law starting into force from January 2016[34].

[29] http://www.coe.int/t/dg4/sport/Doping/Antidoping_database/Reports/2010/leg/LEG1-USA_EN.pdf (2016, March 6)
[30] http://www.volkskrant.nl/sport/flinke-toename-dopingcontroles-met-komst-doconed~a525609/ (2016, January 9)
[31] http://www.coe.int/t/dg4/sport/Doping/Antidoping_database/Reports/2010/leg/LEG1-NLX_OR.pdf (2016, March 6)
[32] http://www.coe.int/t/dg4/sport/Doping/Antidoping_database/Reports/2010/leg/Legislation.asp (2016, March 6)
[33] http://www.coe.int/t/dg4/sport/Doping/Antidoping_database/Reports/2010/leg/LEG1-DEU_EN.pdf (2016, March 6)
[34] http://uk.reuters.com/article/uk-doping-germany-law-idUKKCN0T21OX20151113 (2016, January 9)

5.1.6 Cofidis case

At the beginning of the research period doping in Franche was punishable by law. It resulted in several criminal proceedings with caretaker Willy Voet as most striking case[35]. Therefore the French anti-doping agency CPLD was less independent in doping caught proceedings. CPLD was also established as part of the Strasbourg agreement from 1989. French anti-doping was precursor related to other cycling countries and by initiatives by French minister M.G. Buffet the CPLD was rather autonomous in the late 1990's (Brissonneau and Ohl, 2010). Later on in 2006 the AFLD was emerged in order to comply with the WADA Code. From then doping was not punished by law but by the international standards of the Code. Brissonneau and Ohl (2010) discussed the introduction of the AFLD in 2006, the AFLD succeeded the CPLD which was only a simple administrative authority. The French doping authority AFLD gained especially much attention by their close collaboration with the Tour de France during conflicts between UCI and ASO[36]. French government endorsed to the UNESCO convention in 2007 and made anti-doping laws in 2006, 2008 and 2010[37].

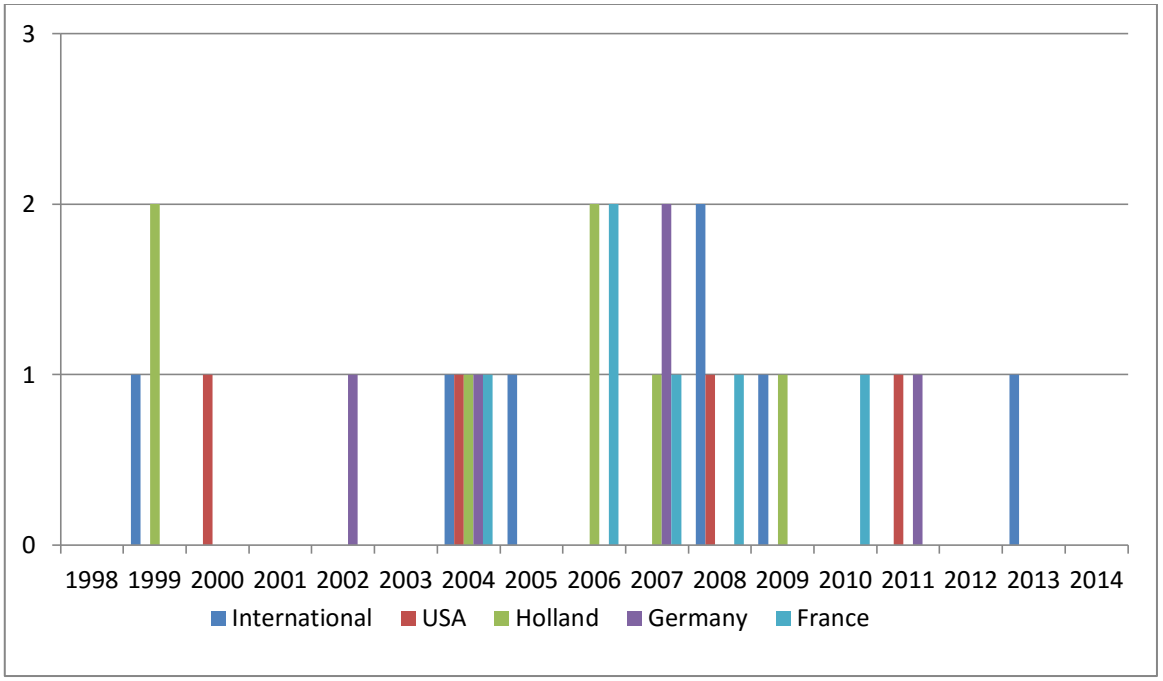


Table 1: Count of independency increasing actions

5.2 Process of control

The second hypothesis, hypothesis 1b will test the executive controlling process. The process of control is the real performed process of anti-doping testing in practice by the Doping Control Officer. The quality of this process only shall be good when tests are unpredictable for all cyclists and cannot be intercepted or avoided by individuals. The strength of the process of control shall be determined by the weakest link. When there is only one small opportunity of for instance dope at midnights without being detected, the whole process is leaking. Since the introduction of the WADA Code this process is equally for all aligned controlling officers thus on the professional top level there will not be mutual differences if the process goes well. The process of control will be displayed in table 2.

[35] http://autobus.cyclingnews.com/features/chain.shtml (2016, February 9)
[36] http://www.cyclingnews.com/news/afld-refuses-to-run-controls-in-paris-nice/ (2016, February 9)
[37] http://www.coe.int/t/dg4/sport/Doping/Antidoping_database/Reports/2010/leg/Legislation.asp (2016, March 6)

5.2.1 Whereabouts system

Controlling exists of ICT's and OOCT's, In Competition Tests and Out of Competition Tests. At the start of the research period ICT's have been performed by the national doping authorities and OOCT's started from 2001. In competition tests were pretty regular and mostly dependent on competition results. The USADA reported that Armstrong avoided those in competition tests by giving wins away in stages, Armstrong finally rode for the general classification. CIRC mentioned that the UCI broadened the time period for ICT's in the anti-doping rules in 2004, which enhance unpredictability. It took only until 2008 when chaperones were introduced in the Tour de France, people who should accompanied the cyclist until the sample was collected (CIRC, 2015). Out of Competition Tests were not performed that much before the introduction of the whereabouts system in 2004 (Waddington, 2010). Out of Competition tests were costly and relatively easy to avoid with impunity. Thus doping usage during trainings periods still was pretty easy for the cyclists. The controlling process completely changed with the introduction of the whereabouts system in 2004 (Waddington, 2010). Cyclists became obliged to provide their location data and being always available for doping controls, unavailability became punished. From then doping tests became way more unpredictable. It took only until 2015 when doping control at midnight became possible for the doping control officers[38].

5.2.2 Doping tests in practice

The CIRC report mentioned that the 'health tests' around 2002 were always performed in the morning, thus pretty predictable. Health tests were worldwide tests performed by UCI's Sport, Safety and Conditions Commission before the introduction of the CADF. The CIRC report also mentioned that unannounced controls sometimes were leaked to the cyclists until 2007, because doping control officers were very close to teams. After 2007 UCI hired people less attached to the world of cycling although corruption never can be ruled out. CIRC and especially the USADA report mentioned that the controlling process was rather good observer able by the teams. The US Postal team had a real warning system that worked on several ways. The only solution for the doping controlling officers would be to work more at random and less predictable in terms of times and order. The UCI reached that slowly especially by the introduction of the WADA Code in 2004 and the revised edition in 2009. Chris Froome showed that there are always weaker places in which testing could be harder or more expensive, even in 2015, Froome asked for more control at the island Tenerife were not so many tests were performed[39]. However it is clear that there will always be poor accessible places this should not stop for testing. Another aspect of unpredictable controls is backwards in time testing old samples with new techniques. The first rider who was caught for an older test was Thomas Dekker[40] in 2009.

[38] http://www.dopingautoriteit.nl/nieuws/anp/item/7825/Tourrenners+ook+'s+nachts+gecontroleerd (2016, February 9)
[39] http://www.cyclingnews.com/news/lack-of-anti-doping-testing-in-tenerife-under-spotlight/ (2016, February 9)
[40] http://www.cyclingnews.com/news/dekker-gets-two-year-suspension-for-epo-use/ (2016, February 9)

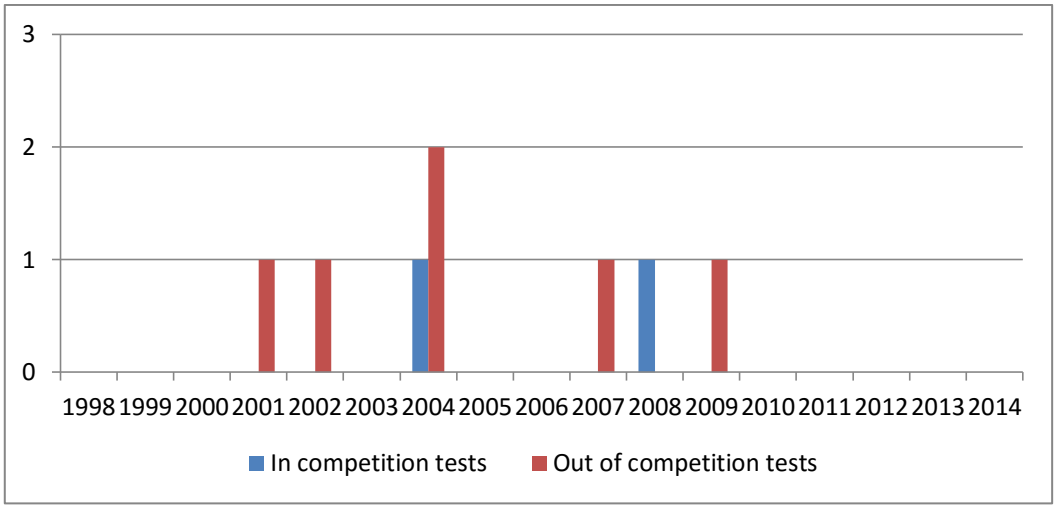


Table 2: Count of unpredictable control increasing changes

5.3 Entities and collaborations in enforcement

The paragraph entities and collaborations in enforcement shall explore the effect of the total working entities in anti-doping on the doping usage in teams. Development of new doping products never stops thus it would also be important to keep pace with the anti-doping developments. Anti-doping developments depend on the amount of entities and collaboration who are trying to keep up with doping developments. There will always be more than only one doping issue thus would it be beneficial to have more entities working on solutions, and it will also benefit the speed and quality of solutions. Besides, more entities could also pick up more signals out of the medical industry and doping usage developments, regarding the information asymmetry from principal agent theory.

5.3.1 Leading entities

The leading entity in cycling of course is the UCI who only have had the supervision of the international Olympic committee IOC, in order to remain cycling involved in the Olympics. In 1999 the WADA arrived as new leading entity in the battle against doping (Foschi, 2006), originated out of the world conference initiated by the IOC. From then the WADA is leading in all anti-doping developments, however the UCI remains responsible for specific issues of cycling. Most of the important developments from then were initiated from the WADA community such as the whereabouts system, biological passport, ADAMS and the new EPO tests (Waddington, 2010). Nevertheless the Sorgdrager report emphasized the gap of the “cat mouse game” between dopers and institutions. In 2013 when the CADF became independent from the UCI they became two independent entities both working on anti-doping, the anti-doping commission on behalf of the UCI (Annual report UCI, 2013).[41]

5.3.2 Other anti-doping entities

All cycling countries have their own national doping agencies, in France the entity AFLD worked close together with the Tour de France organization, which also have had their interest in clean sports (Wagner, 2010). The AFLD conducted its own anti-doping test for new products[42]. Other NADO’s usually stick to control and anti-doping campaign education, possibly the presence of the Tour de France influenced the AFLD. In 2011 the INADO was originated as international coordinating

[41] http://www.uci.ch/clean-sport/anti-doping/ (2016, February 9)
[42] http://www.cyclingweekly.co.uk/racing/tour-de-france/new-anti-doping-test-for-tour-de-france-68242 (2016, February 9)

committee for all national NADO's, Nation Anti-Doping Organization. USADA introduced especially database systems such as Paperless and Simon, and collaborated in Global DRO with other agencies[43]. From 2015 there arise more anti-doping collaborations on specific testing targets. Especially the UCI, USADA, AFLD and WADA are involved[44].

5.3.3 Time for technologic developments

Finally the development of anti-doping technologies is dependent on the development in doping development, mostly in the medical world. During the time span of this research only the doping tests of EPO, growth hormones and cortisones were developed, from which EPO is the most important one. Then there were also some sub-EPO products introduced in cycling such as Dynepo[45] and AICAR for which the institutions did found detection methods during the research period. With the presence of proactive attitudes from AFLD, USADA, UCI and WADA these detections went relatively fast. However the most important role is more and more reserved for the WADA accredited labs and in terms of communication the institutions choose to be vague[46]. Therefore it is very hard to determine solutions to certain entities, and the difficulty of the doping substances is also possible not comparable. See for an overview of developments figure 6 and table 3 for a count of entities.

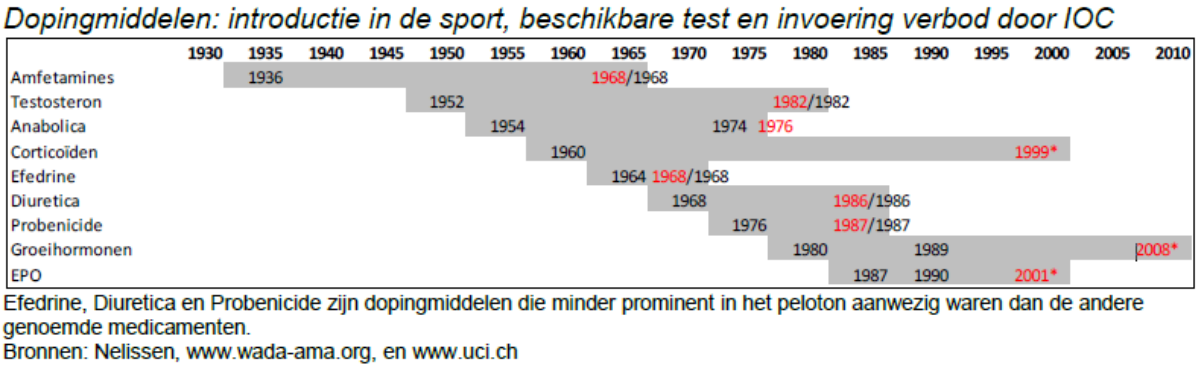


Figure 6: Overview cat mouse game (Source: Sorgdrager report, 2013)

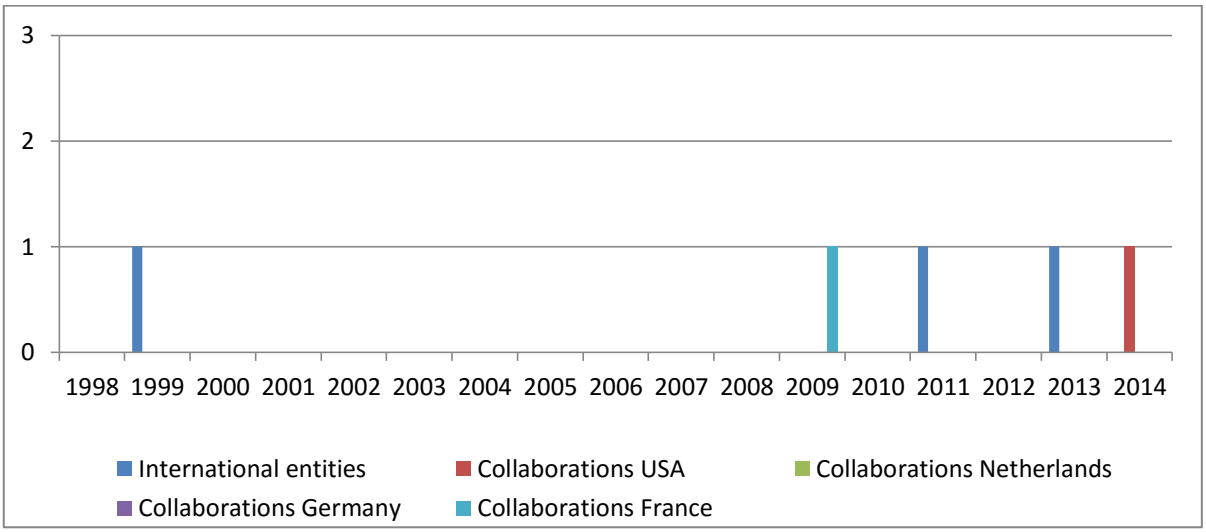


Table 3: Count of emerging anti-doping entities and collaborations

[43] http://www.usada.org/about/programs/ (2016, February 10)
[44] http://www.uci.ch/pressreleases/the-cadf-usada-and-the-uci-announce-new-anti-doping-collaboration-for-the-205-amgen-tour-california/ (2016, February 11)
[45] http://krant.telegraaf.nl/krant/archief/20020319/teksten/spo.dynepo.termijn.sporen.html
[46] http://sporza.be/cm/sporza/wielrennen/1.2008827 (2016, February 11)

5.4 Conclusions from the monitoring process

The first striking conclusion from the first testable set of hypotheses is that there changed pretty much in the organization of enforcement during the research period. Especially the introduction of the WADA, and later the WADA Code, has played a crucial role in the development of anti-doping. Regarding these independent hypotheses variables it seems that the organization of enforcement within the UCI just about started surrounding 1998. Before the introduction of the WADA in 1999 the UCI was certainly motivated in their battle against doping but organizationally the development of checks and balances was rather snowed under. Between 2004 and 2008 the UCI made big steps forward organizationally and in terms of executive controls and procedures as well. From that period also the process to more uniformity did started. Collaborations in anti-doping were rather rare at that time, authorities were used to work on behalf of the UCI and pretty autonomous. Only the French anti-doping authority was a big exception in their collaboration with the Tour de France and ASO surrounding 2008. The French anti-doping authority AFLD is also the only one known about anti-doping test developments.

6. Independent variables: Participation and collaboration

Following the independent variables of the second set of hypotheses will be addressed, variables of participation and collaboration in anti-doping. As already became clear in the previous chapters the UCI is not the only actor in the battle against doping. Organizations like the IOC, WADA, ASO and the national federations have, or have had played a crucial role in anti-doping development. And also entities with less responsibility in international enforcement might influence the institutional battle such as national government, several unions and the teams. Each of these stakeholders have their own interest but the UCI is charged with the task to involve those parties in their battle and manage all their efforts in the most effective and efficient way. The more widely anti-doping in cycling is being supported by the stakeholders, the higher the total contribution against doping will be. Widely supported participation will also contribute to the awareness of the doping issues which potentially could have a preventive function, both inside and outside the cycling world.

6.1 Political conflicts

The administrative world of cycling is a pretty small world and is characterized by the monopolistic nature of some major authorities. The influence of all these authorities on the anti-doping policy and doping usage in teams will be tested in hypothesis 2a. The WADA as worldwide anti-doping entity is for instance authorized with lead in anti-doping development but also individual teams, riders and racers are of monopolistic character due to their high valued uniqueness. The risk of those monopolistic roles is that the referred authorities might up end manipulating the UCI's strategy. In first that could potentially harm the effectiveness and efficiency of the international policy, second it also might cause political conflicts such as the CIRC report provides the most important examples. Each conflict potentially could harm the anti-doping battle because conflicts are time costly, might reduce good quality collaborations and possibly lowers incentives for participation of own initiatives amongst the stakeholders. The international and most influential conflicts will be displayed in table 4.

6.1.1 Most influential conflicts

The history of administrative cycling is touched by some major conflicts between UCI and other stakeholders. Most known conflicts are recurrent and openly discussed in the media, ASO and WADA are the most striking oppositions of the UCI. Especially the CIRC report (2015) treated those conflicts from UCI's perspective extensively. The first conflict that the CIRC report addressed is the continuing conflict between the UCI and the WADA. The relationship between UCI and WADA is pretty strongly tied together since the introduction of the WADA is generally seen as a direct result of the Festina affair (CIRC, 2015). Most striking and most harmful conflict took place between 2002 and 2004 when the new WADA Code came out and the UCI initially did not wanted to accept it[47]. That time both parties worked against each other in anti-doping control (CIRC, 2015). In 2007 the WADA addressed the UCI to talk about the remaining doping problems in cycling, WADA publicly discussed UCIs' approach[48]. The CIRC report described the WADA conflict as a conflict between individuals Dick Pound and Hein Verbruggen, respectively president of the WADA and UCI. Both accused each other from bad policies, lack of transparency and are still in conflict during 2015[49]. Wagner (2010)

[47] http://www.nrc.nl/handelsblad/2003/10/07/wada-zet-uci-onder-druk-7656892 (2016, February 12)
[48] http://62.50.72.82/modello.asp?1stlevelid=B&level1=12&level2=0&idnews=4795 (2016, February 12)
[49] http://www.cyclingnews.com/news/pound-past-uci-leaders-only-wanted-to-shoot-the-messenger/ (2016, February 12)

emphasized that the WADA provided less support since this period[50]. Then the UCI also have had many conflict in a longstanding battle with the ASO. These conflicts were especially surrounded around the interests of TV funds and the starting rights for Pro Tour teams relating the introduction of the Pro Tour in 2005[51]. But also the quality of doping control was a returning point of discussion with the AFLD[52], since then the ASO tried to influence the UCI several times like in 2008 when they reach their ties with the AFLD and the FFC[53]. The bubble busted again when the ASO threatens to abandon the World Tour in 2017 recently[5455]. The UCI also has been into conflict with riders union AIGCP about sanctioning[56] and the radio ban[57] surrounding 2008. All these conflicts are characterized by the continue retaining instable relationship who can be featured as a mutual between power.

6.1.2 Harm to ant-doping initiatives

What immediately strikes about the content of the conflict situations is that most conflicts are originated directly out of substantive discussions about the anti-doping approach. Public criticism on mutual policies possibly harms to institutional and collaborative processes, but on the other hand also motivates authorities to enhance the quality of enforcement. Conflicts on collaborations between UCI and WADA shall not directly lead to more or less initiatives because each conflict finally has one single compromised outcome, to some extent. Possibly the focus of the WADA in anti-doping development moves more to other sports such as the CIRC (2015) suggests, however that is never possible to distract with any certainty. Also it is very questionable to what extent new initiatives are being ask, that should be measured by viewing the doping usage. The best way to measure the result of conflicts situations is possibly measuring the discussion about doping in the media opposed to actual doping abuse, measured by count of doping related letters on cyclingnews.com (figure 7). Possible upwards fluctuations in doping salient can be declared through conflict situations. Then it remains questionable to what extent doping use matches to new initiatives, first in conflict situations, then outside conflict situations.

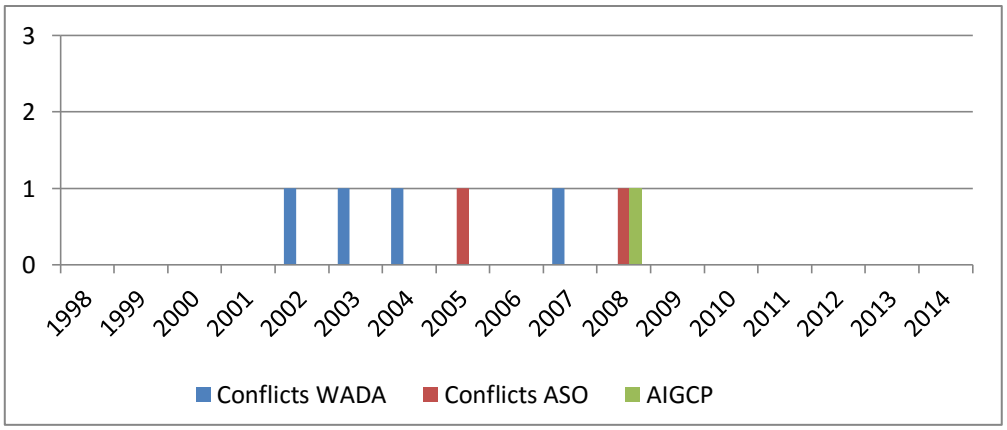


Table 4: Periods of international conflicts

[50] http://autobus.cyclingnews.com/riders/2007/interviews/?id=anne_gripper_part207 (2016, February 12)
[51] http://www.cyclingnews.com/features/the-great-divide/ (2016, February 12)
[52] http://www.cyclingnews.com/news/uci-afld-accusations-continue/ (2016, February 12)
[53] http://www.cyclingnews.com/features/tour-de-france-under-the-control-of-ffc-and-afld/ (2016, February 12)
[54] http://www.cyclingnews.com/news/aso-withdraws-the-tour-de-france-from-2017-worldtour-calendar/ (2016, February 14)
[55] http://www.cyclingnews.com/news/cookson-on-uci-and-aso-standoff/ (2016, February 14)
[56] http://www.cyclingnews.com/news/riders-teams-stand-up-to-uci/ (2016, February 14)
[57] http://www.cyclingnews.com/news/uci-president-mcquaid-addresses-pro-riders-on-radio-ban/ (2016, February 14)

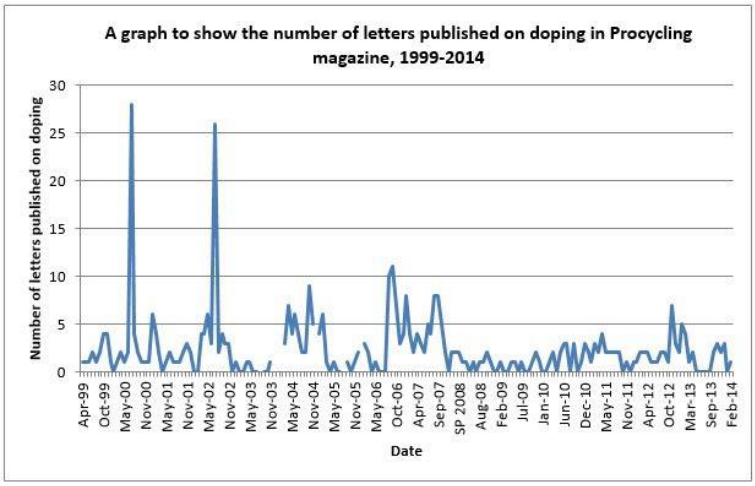


Figure 7: Salient news messages on doping (source: cyclingnews.com)

6.2 Discretion for implementation

Hypotheses 2b stated that the extent of interpretation leeway for national federations will be determinative for doping usage in teams. This paragraph discusses the extent of interpretation leeway national authorities have for implementation of anti-doping policy. Discretion is a derivative from principal agent theory in which the UCI as policy maker provides policy discretion for implementations to national federations and doping authorities. The extent of discretion is a continued search for the optimal balance between uniformity and good quality implementation. Imparting more discretion causes a perfect situation for one single entity because they can implement measures in practice in the best possible way in accordance with the local context, which also lets some space open for own initiatives. But on the other hand providing less discretion should cause great uniformity among the different entities, which is a great advantage in an international active area such as the World Tour. However the search to uniformity clearly prevailed since the introduction of the WADA in 1999, it is questionable to what extent policy discretion is related to new initiatives per entity.

6.2.1 Interpretation leeway national federations

The extent of interpretation leeway for single authorities in cycling clearly depends on the introduction of the WADA and the WADA Code. In 1999 the search for uniformity started with the introduction of the WADA (Waddington, 2010). Since then there have not been that many discretion issues in anti-doping. The organizational arrangement of the UCI is pretty rare because the UCI exists of all national authorities as umbrella organization (Annual report UCI, 2008; UCI, 2000). Thus UCI regulations are directly operative for national institutions. Only implementation factor for national federations is been the handling of criminal doping proceedings. At the very end of 1998 the UCI appealed a few national federations for setting too short doping suspensions for a few caught cyclists. This could be seen as some kind of a warning to the other federations[58]. But this also disappeared since the introduction of the WADA Code in 2004 (Waddington, 2010). All countries have had equal laws since the introduction of the WADA Code within the sport. Criminal proceedings outside the sport do not have anything to do with implementations. On the other side national federations do have enough room for anti-doping related educations.

[58] http://oldsite.uci.ch/english/news/news_2002/index.htm (2016, February 14)

6.2.2 Interpretation leeway for doping authorities

Initiatives should not always be related to implementations, but the UCI will support new initiatives. Based on the Strasbourg convention the countries are obligated to set up new initiatives, but flexible in the way how. From 2006 in the Neterlands, 2007 in Germany and France and from 2008 in the USA the countries are a little bit less flexible in undertaking new initiatives because from then the national governments are responsible to provide funds by law based on the UNESCO agreement. In 2001 the UCI widen their anti-doping radius in the UCI in which initiatives of for instance race organizers will be supported at the end of 2001 (UCI, 2001). For doping authorities there have been a little bit more room for discussions on discretion opposed to the national sport federations. Only until January 2004 race organizations received a clear instruction of what to do at abnormal testing results and under what conditions as a first attempt to uniformity. Then also in 2004 all procedures were extremely specific describe related to the WADA Code. However this especially deals with procedural factors, strategically each authority has free sayings. Then in 2011 the UCI originated the iNADO, institute for National Anti-Doping Organizations with objective to enhance uniformity (Annual report UCI, 2013). From then the interpretation leeway for national authorities is extremely limited.

6.2.3 Anti-doping initiatives national federations and doping authorities

Following all initiatives per country case will be listed. Every activity should say something about the willingness to participate in the battle against doping by country. However most activities are mostly from educational or campaign like nature and not always easy to determine of history. Besides, educations always took place, also without centralized national programs.

USA

- Truesports youth program starting from 2010 (Annual report USADA, 2010).
- Athletes RaceClean program starting from 2013 (Annual report USADA, 2013).
- Global DRO database for athletes in 2013 (Annual report USADA, 2013).

The Netherlands

- Actionplan “Cultuurverandering op het hoogste niveau” from 2014[59].
- The “100% dope free” was started in 2014 also[60].
- Also in 2014 the “dopingwaaierapp” is introduction, informational platform[61].

Germany

- RAPID program starting from 2007[62].
- National doping preventions plan from 2015[63]

France

- Information and education plaform[64].

[59] http://www.knwu.nl/anti-doping-2 (2016, February 15)
[60] http://www.dopefree.nl/programma (2016, February 15)
[61] http://www.dopingautoriteit.nl/programmas/dopingwaaier-nl (2016, February 15)
[62] http://www.rad-net.de/modules.php?name=html&f=antidoping/bdr-maßnahmen.htm&menuid=375 (2016, February 15)
[63] http://www.dopingpraeventionsplan.de/der-ndpp/die-ziele-des-ndpp/ (2016, February 15)
[64] http://www.sports.gouv.fr/prevention/dopage/Lutte-contre-le-dopage/ (2016, February 15)

6.3 Team focused measures

Paragraph 6.3 treats the independent variable of hypothesis 2c, team focused measures, initiatives and collaborations. Hypothesis 2c states that more team focused measures increases the involvement and participation in the battle against doping amongst teams which should finally lead to less doping usage on team level. Team focused measures are the measures that connects the most with the target audience of anti-doping. Team focused measures should enhance the participation from teams in the battle against doping, individually or in cooperative unions. The effect of participation of teams shall also contribute in the awareness of the doping issues and should lead to attitudinal change over the longer term. Team focused measures could be bases on both voluntarily and obligated participations. Table 5 will display the team focused measures international.

6.3.1 Team focused measures by the institutions

The first attempt to participation from teams in the battle against doping is the introduction of the document "status and obligations of attendant in 1996, first attempt to sharing responsibilities (UCI, 2001). This attempt was in 1999 transformed into licenses with the first responsibilities and duties for team doctors, team managers and team leaders which could be penalized (Sorgdrager, 2013). In 1998 the general elite road commission was formed[65], this is a platform on which individuals can contribute in the international policy. In august 1998 UCI president Verbruggen sat down round the table with team managers and race organizers to talk about the doping problems[66], thus problems were being discussed. At the end of 1998 in Augustus the UCI also intended a meeting with the AIGCP, the united interest group for teams, in order to work on a draft proposal form to sign a code against doping which should be signed by all cyclists and team managers. In April 2001 the first attempt to create awareness about the bad side-effects of doping from health perspective by enabling scientific research (UCI, 2001). The UCI signed joint agreements in 2001 with CPA and AIGCP interest groups, especially meant for uniformity and increased rights and conditions for cyclists in their teams[67]. At the end of 2006 UCI president Pat McQuaid and Anti-doping service manager Anne Gripper provided an educational presentation to the AIGCP about the recent anti-doping developments, teams, riders and WADA must work more together and teams were willing to participate.[68] In March 2014 the WADA introduced the ALPHA program, supported by the UCI. The Alpha program is an online educational learning program about all doping related matters. [69]

6.3.2 Team initiatives

Of course each address to teams would have had to some extent effect on the attitude to participation. However it is questionable what measurements really took place into practice. In 2006 the UCI signed a major agreement with cyclists and teams about annual payback salaries for doping caught cyclists in 2006 (Wagner, 2010).[70] A relative big change in the responsibility for doping usage, although the agreement never really been into practice apart from some longstanding lawsuits. More specific collaborations in team arisen in 2007 when the MPCC was established, mouvement pour un

[65] http://oldsite.uci.ch/english/news/news_2002/index.htm (2016, January 7)
[66] http://oldsite.uci.ch/english/news/news_2002/index.htm (2016, January 7)
[67] http://oldsite.uci.ch/english/news/news_2002/index.htm (2016, January 7)
[68] http://62.50.72.82/modello.asp?1stlevelid=B&level1=12&level2=0&idnews=4449 (2016, February 15)
[69] https://www.wada-ama.org/en/what-we-do/education-awareness/tools-for-stakeholders/alpha (2016, February 15)
[70] http://62.50.72.82/modello.asp?1stlevelid=B&level1=12&level2=0&idnews=4242 (2016, February 15)

cyclisme credible,[71] a union with main objective to improve the image of cycling especially through better anti-doping regulations. From the four selected cases initially Rabobank, Telekom and Cofidis were connected.[72] In 2007 Telekom brought his first example of anti-doping into practice when they fired Honchar based on suspected blood values found by internal testing. US Postal already stopped from cycling at the end of 2007. Lotto Jumbo, successor of Rabobank quitted from MPCC due to a conflict[73]. In 2012 the Rabobank made a big statement by quitting their sponsoring activities after the Rabobank affair. Then Velon is a comparable collaborating initiative, established in 2014[74]. However Velon in more focused surrounding the business model of cycling.

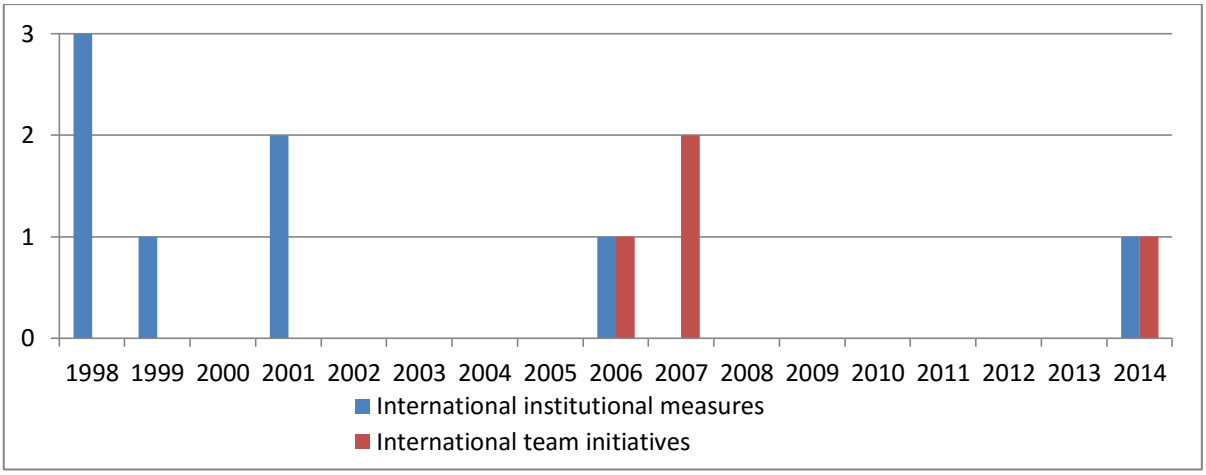


Table 5: Count of team focused initiatives

6.4 Conclusions from the participation and collaboration process

Just like in the former chapter the introduction of the WADA and the WADA Code played a huge role in the development of the independent variable. The WADA is been a very important authority in anti-doping although their relationship with the UCI always have been way from efficient with all their conflict situations. Also on national and team level the WADA and the creation to more uniformity had been crucial to several participation and collaborations in the battle against doping. However only until 2012 surrounding the period that the USADA report regarding the doping culture of 'team Armstrong' came out, the participation and collaborations reached another level. National educations and team collaborations mostly started as a result of reactive policies focused surrounding incidents.

[71] http://www.mpcc.fr/index.php/en/mpcc-uk (2016, February 15)
[72] http://www.wielerland.nl/index.php?id=280&option=com_content&task=view (2016, February 15)
[73] http://cyclingtips.com/2015/06/mpcc-on-lottonl-jumbos-decision-to-quit-only-seven-samples-ever-deemed-too-low-dutch-team-had-two-of-these/ (2016, February 15)
[74] http://www.telegraaf.nl/telesport/wielersport/23370476/__Profpeloton_verenigt_zich__.html (2016, February 15)

7. Case studies

Chapter seven is dedicated to the exploration of the main dependent variable of the four team cases separately, doping usage in teams. After the exploration of the dependent variables the six formulated hypotheses will be tested in each case. Doping usage in teams will be determined by the sum of all individual doping use patterns pulled together which shall be described in appendix 1, 2, 3 and 4. The individual doping patters will be ranked in two team tables based on the different typologies in order to declare variation over time. The typologies are repeated below in figure 8; extent of doping usage and cultural anchoring. Based on those two typologies, the pulled team cultures will be presented in two graphs that represent the extent of doping usage over time. Each team culture will end up with one general conclusion surrounding the development of the team culture. In the conclusions, finally variation in the graphical team cultures should be helpful in testing and explaining the hypotheses. First the case of the US Postal service team will be treated, then respectively the Rabobank case, team Telekom and team Cofidis will be covered.

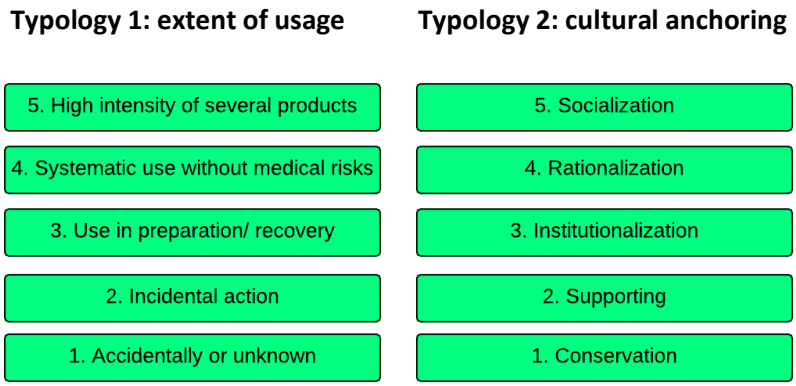


Figure 8: Typology 1 & typology 2 (chapter 3.4.1)

7.1 US Postal Service

In the following section the doping culture of US Postal Service team will be described. First, all individual cases will be addressed qualitatively based on dopeology.org and finally all findings will be pulled together in one single conclusion substantiated by a graphical reproduction. The doping culture of the US Postal Service is intensively examined in the USADA report. The USADA commission concluded that there was a wide spread doping culture in the team starting at least from 1998 and focused around the grand tours and team leader Lance Armstrong. USADA (2012) stated that the evidence against Mr. Armstrong was overwhelming, not solely for doping use but also avoiding tests and cheating with therapeutic use exceptions. The USADA commission also concluded team organized usage amongst many important team mates.

7.1.1 Individual doping usage

The individual usage patterns will be deployed in table 6. According to dopeology.org US Postal Service only had three positive doping tests during the research period from 1998, but there were 33 serious incidents such as allegations, investigations and retrospective confessions. One incident might contain more riders and incidents might be counted more than once in case of for instance reinvestigations. Apart from the individual cyclists the USADA report also provides a clear image of the accompaniment. The USADA commission found evidence for the involvement and participation of accompaniment members Johan Bruyneel, Dr. Michele Ferrari, Dr. Luis Garcia del Moral, Dr. Pedro Celaya and Jose Pepe Marti (USADA Report, 2012). Again, the individual statements can be found in

Appendix 1. At the end of Appendix 1 the table displays a pulled score of the table below, table two. These pulled scores serve as input for the two graphical reproductions of the team usage conclusions. These scores are pulled together because the separate categories are independently not large enough for only one case. In both indicators; category scores one to three are pulled together, and category scores four and five also. Note; positive tests and public confessions of cyclists will only be included in case when doping violations were committed during the particular team contract periods, thus positive tests before or after the US Postal era are excluded.

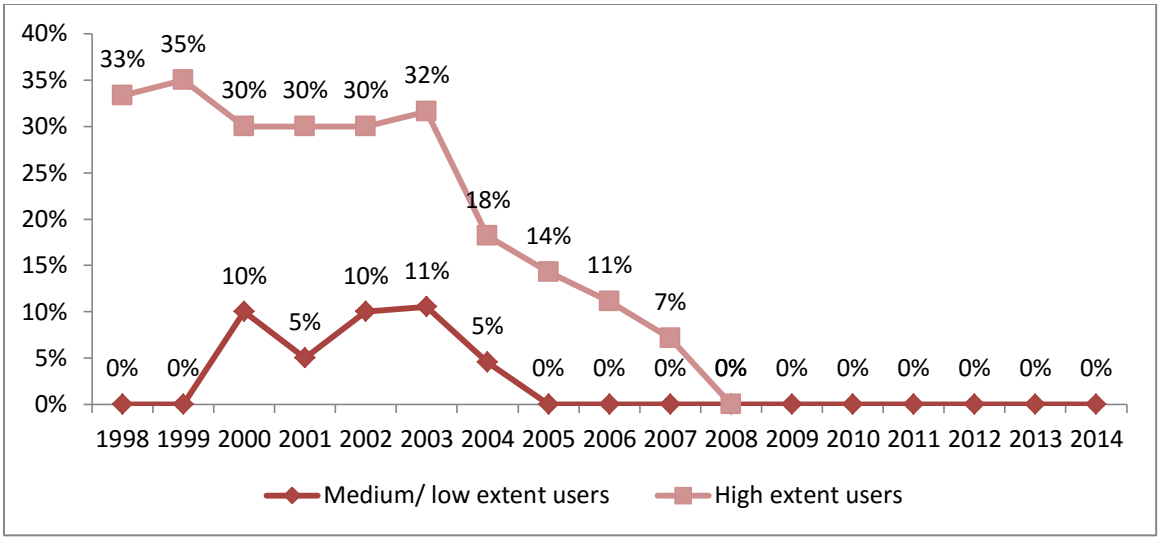
US Postal Service	Substance	Confessed	Suspended	Time period	Extent of use	Confession statement
Hincapie	EPO/blood and more	Yes	Yes in 2012	1998-2007	5	5
Armstrong	EPO/blood and more	Yes	Yes in 2012	1998-2005	5	5
Vandeveld	EPO/hGh and more	Yes	Yes in 2012	1998-2003	5	4
Andreu	EPO	Yes	No	1998-2000	3	3
Vaughters	EPO/cortisone/actov	Yes	No	1998-1999	4	2
Livingston	EPO/ blood doping	No	No	1999	4	5
Hamilton	EPO/blood and more	Yes	Not at USP	1999-2001	5	5
Joachim	EPO/ testerone	No	No	2000	1	-
Leipheimer	EPO/ actovegin	Yes	Yes in 2012	2000-2001	5	4
Kjeargaard	EPO	Yes	No	2000-2003	4	2
Landis	Blood/ hGH/Testost	Yes	Yes in 2007	2002-2004	5	3
Zabriskie	EPO/hGH/testoster.	Yes	Yes in 2012	2002-2004	4	3
Danielson	EPO/ hGH and more	Yes	Yes, 12/15	2005-2006	5	3
Leipheimer	Blood doping	Yes	Yes in 2012	2007	4	2
Barry	EPO/ hGH/ corti/test	Yes	Yes in 2012	2002-2006	3	3
White	EPO/ hGH/ Testoster	Yes	Yes in 2013	2001-2003	3	3

Table 6: Doping usage US Postal Service

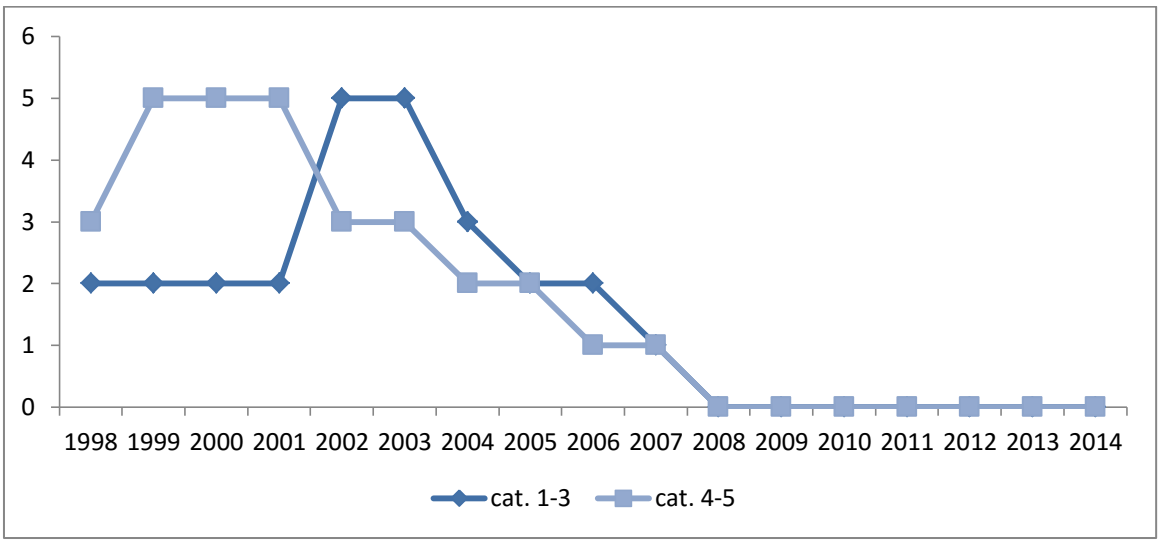
7.1.2 Pulled conclusion team usage

From the start of this research period in 1998 there has always been a very clear doping culture in the US Postal team. Even after the Festina affair in 1998 the use of doping only increased with the arrival of Bruyneel as team manager in 1999 and his accompaniment. Distracted from graph 1 and graph 2 it seems that the doping usage and cultural anchoring as well decreased from 2003 and 2004. Finally it lasted until 2008, the last active year of the team. The doping culture in the team was very hierarchical based with Armstrong and Bruyneel as the key figures and values like hematocrit levels were always pretty good observed within the team. Most striking is this team culture is that the team pretty good seems to know what it takes to avoid positive tests. Especially Lance Armstrong has pretty good connections and knowledge about testing. Because of this knowledge cyclists seemed to have smaller changes of positive testing at US Postal in comparison with other teams, also supported by many positive ex- US Postal riders at several teams. In the later period the team became ever more cautious in his doping program because the consequences and bad publicity increased. However the team never stopped providing their riders from doping. The US Postal Service team always have had a strict zero tolerance anti-doping policy. To some extent that can be seen as a starting point for anti-doping cultural shift but when the management at the same time is up to date about doping abuse inside the team this lying behavior could also be seen as highly socialized behavior from the cultural typology. What also strikes a little bit is many ex riders of the US Postal team remained to use doping and helped each other in other teams. They became somewhat

of a small network on its own apart from the team, but with many members and ex-members involved. Also some riders stopped using doping after the retirement of Lance Armstrong.



Graph 1: Percentage of doping users US Postal



Graph 2: Count of cultural anchoring categories US Postal

7.1.3 Answering research hypotheses

Hypothesis 1a: Independency in enforcement process

From international perspective regarding independency, the Anti-Doping Commision (ADC) was very attached to the organization of the UCI in 1998. During that time also the line between the medical commission and the ADC was very thin and information gathered by the medical commission was used for the strategic control of the ADC. From 1999 the UCI became somewhat under supervision of the WADA, based on voluntarily collaborations. With sharpened policies and different people within the ADC the independency really started to increase, but only until 2008 when the CADF was created as successor of the ADC the anti-doping commission became legally independent. The American anti-doping authority USADA was established in 2000 and immediately started anti-doping proceedings independently, although not very focused on cycling yet. In 2004 the USADA became part of the WADA Code, and became more independent from the UCI but less independent on itself.

Looking at graph 1 and 2 after 2003 the extent of doping usage and the cultural anchoring as well started to decrease significantly, the higher categories of cultural anchoring started to increase already after 2001. Thus that decreases could very good be explained by the increasing independency started from 1999 and the following independency of the USADA in 2000. The subsequent measures do not seem too effective however the team quitted in 2008, thus the effects thereafter are not measurable.

Hypothesis 1b: Unpredictability in control

The controlling process is internationally equal for all professional riders on the highest level although the out of competition controls could differ per country. The out of competition tests were introduced from 2001 thus that is the first point that the unpredictability potentially increased a lot. Then in 2002 the inspectors started to increase the predictability and in 2004 the whereabouts system was introduced. With that introduction in 2004 also the amount of in competition- and out of competition tests did increased. In 2001 there is not directly an effect measurable but the CIRC report also emphasized the sophisticated way how US Postal remained to avoiding the tests. From 2004 when the whereabouts system was introduced the usage decreased with almost 50 percent.

Hypothesis 1c: Entities and collaborations in anti-doping

The count of collaborations in anti-doping regarding specific testing targets of developing tests is pretty hard to figure out because the authorities in many cases are not transparent in order to enhance the unpredictability and the chance of getting dopers caught. Internationally the WADA of course have had a lot of influence in developing anti-doping measures. The measurable collaborations concern especially educational initiatives that came up surrounding the late 00's when the US Postal Service team already quitted. Regarding Figure 6 out of Chapter 5.3 clearly the development of anti-doping tests took very long however all, except EPO and growth hormones partly, took place before the introduction of the WADA and the professionalization of the UCI.

Hypothesis 2a: Political conflicts

In the first place the political conflicts from the UCI with the WADA from 2002 until 2004 did not directly influence the doping usage as shown in graph 1 and graph 2. On the other side the doping usage decreased from 2004 when the conflicts were to some extent condoned. Possibly the WADA could have achieved more since the introduction in 1999 between 2004. Regarding salient on doping related news massages there is no measurable affect available in especially the beginning of the conflict in 2002 on the negative perception about doping toward the actual usage. The salient on doping related articles does not match with the usage anyway but probably more the doping cases and affairs.

Hypothesis 2b: Policy discretion

With the introduction of the WADA the search to uniformity is deployed which from then could be seen as a way of no turning back. Uniformity is generally seen as an important factor from perspective of the international acting peloton. The increasing uniformity is accompanied with the loss in discretion because national authorities should comply with ever more specific rules. Possibly that could cost time and money but on the other hand initiatives like the whereabouts system from the WADA could also be time saving. Moreover it is not that the USA cycling federation is implementing the UCI its strategy, instead it is more a matter of taking over decisions. Because there

changed a lot in cycling there was not such that much room for new initiatives from the cycling federations during the late 90's and early- mid 00's. But the developments in the sport and international conventions together have only ensured more awareness, room and also financial vigor for new initiatives. Proof are the American educational plans and the collaborations they entered started from the year 2010 out of chapter 6.2.3.

Hypothesis 2c: Team focused measures

The team focused measures are not related to doping usage at all. The only team focused measure that possibly affects doping usage is the signed joint agreement between the UCI and the AIGCP in 2001. The AIGCP is the cyclists' representative union and from 2001 the cultural anchored doping users from the highest category started to fall. Despite the other team focused measured did not match to any of the doping usage curves that would not imply that the measures are not beneficial. It seems that especially the 2006 and 2007 initiatives have had their effects in new initiatives. Besides the actual perceptible effects on doping the team measured factors could also have a preventive function for instance.

7.2 Rabobank

The doping team case of the Rabobank team is pretty linear towards US Postal Service in time. Most striking difference is that the US Postal Service team quitted in 2008 and that the Rabobank team moved on until the present days, although with other main sponsors. Both cases also have in common that we know pretty much about the doping related team cultures thanks to the extensively written research reports, for Rabobank the Sorgdrager report (2013). Even though the Sorgdrager report was not explicitly written about the Rabobank the team is mentioned quite a few times in the report. Quitting their sponsoring activities in 2012 was a direct motive for starting the Sorgdrager research. In the Sorgdrager report the Rabobank team is mentioned as quite decent and reliable team with a better image towards the south European teams, nevertheless the management is hold responsible for several mistakes and the presence of a doping culture is undisputed. Rabobank is always been a Dutch team with mostly Dutch cyclists although team leaders often were recruited from abroad such as Sorensen, Freire, Leipheimer, Rasmussen and Menchov.

7.2.1 Individual doping usage

The data of team sizes is extracted from procyclingstats.com. All doping related data comes from dopeology.org. According to dopelology.org the Rabobank team has had three positive tests and 29 incidents during the research period. An overview of the individual patterns can be seen in table 7; doping usage team Rabobank. Just like at the US Postal Service case the role of the team doctors seems pretty important regarding the data on dopeology.org. At the Rabobank team Geert Leinders is mentioned as team doctor who provided doping to at least Rasmussen and Leipheimer. Also team manager Theo de Rooij is known as one of the people who knew about the doping network. Besides, the dopeology.org website provides also a few doping agents from outside the Rabobank team. Amongst others Matschiner and Scimone are mentioned however those involvements are never fully proven. The Sorgdrager report (2013) provided lots of clearness about the doping usage in team Rabobank, however some riders spoke just anonymously and several riders refused to cope. Thus the Rabobank also have had a few riders under contract with the smog of doping surrounding them, without being caught or at least not during their Rabobank employment. Servais Knaven, Maurizio Ardilla and Luis Leon Sanchez are examples of mentioned riders in several doping investigations who never been accused. Ryder Hesjedal, Bernard Kohl, Markus Zberg, Roy Sentjens, Kozontchuck, Kolobnev and Barredo are dopeology.org cited people who had been accused for any doping violations however without any proof during their Rabobank periods.

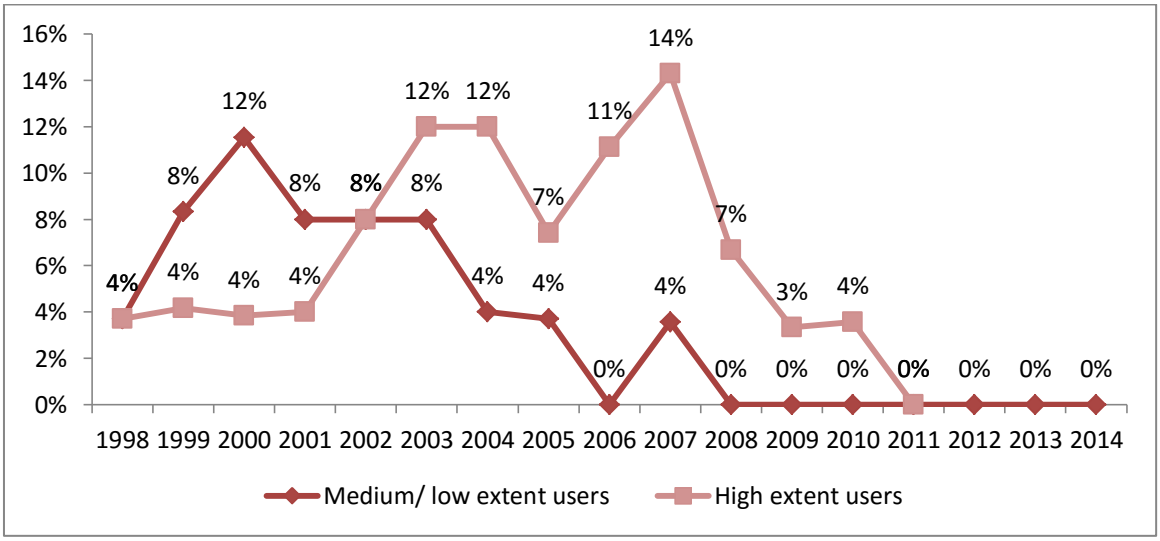
Rabobank	Substance	Confessed	Suspended	Time period	Extent of use	Confession statement
Boogerd	EPO/blood/cortisone	Yes	In 2015	1998-2007	4	5
E. Dekker	EPO	No	No	Around 98	1	-
Rasmussen	EPO/blood and more	Yes	Yes in 2013	2003-2007	5	5
Sutherland	Clomifene	No	Yes in 2005	2005	1	-
T. Dekker	EPO/blood/dynepo	Yes	Yes in 2009	2006-2008	4	5
Horrillo	Formoterol	Yes	No	2007	1	-
Koerts	EPO	Yes	Yes in 2007	1998	3	4
Leipheimer	EPO/blood and more	Yes	Yes in 2013	2002-2004	4	5
Lotz	EPO/ cortisones	Yes	Yes in 2005	2001-2004	3	4
Niermann	EPO	Yes	Yes in 2013	2000-2003	3	3
Menchov	??	No	Yes in 2013	2007-2010	4	5
Sorensen	EPO/ cortisones	Yes	Yes in 2013	1998-2000	3	4

De Jongh	EPO	Yes	Yes in 2013	2000	3	3

Table 7: Doping usage Rabobank

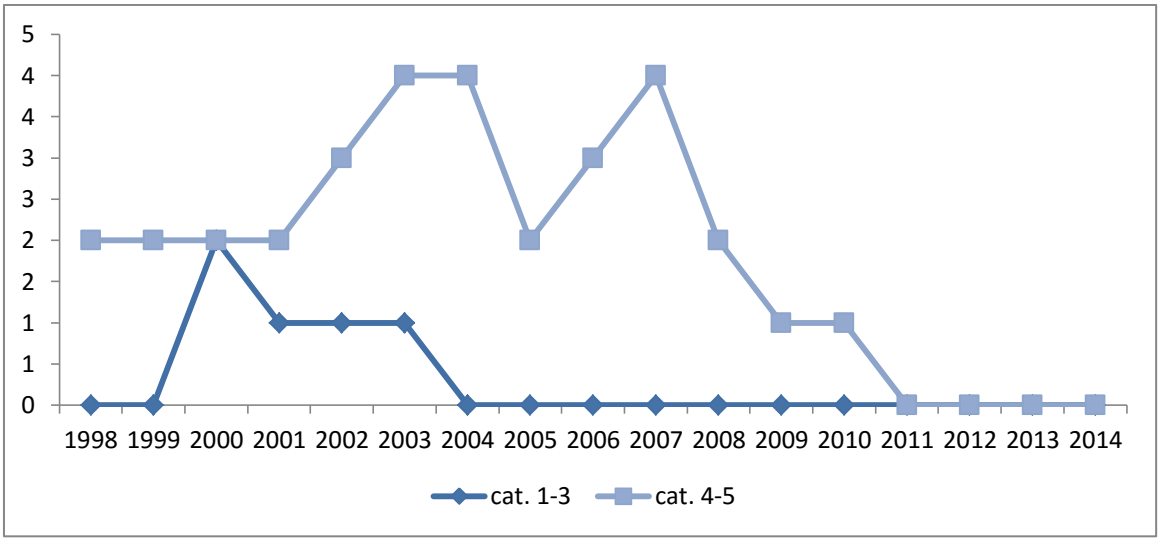
7.2.2 Pulled conclusion of team usage

The image that the Sorgdrager report (2013) sheds is that the doping culture in the Rabobank team is present although it is mostly initiated by the EPO era in the common doping era, institutionalization thus if you should express it in terms of the cultural typology. The Rabobank team used already doping in 1998 based on the statistics of graph 3 and graph 4. However it seems that the team in 1999 started with more professional usage based on the 'EPO wave' in the professional peloton, also supported by the Sorgdrager report. Especially team doctor Geert Leinders seems to have a great role in the doping web of team Rabobank. The image that the Sorgdrager report together with dopeology.org sheds is that the team management knew everything about the doping usage, however did not interfered actively. In the period between 2002 and 2004, when Leipheimer arrived at the Rabobank team, the team management was clearly informed about the EPO usage. Leipheimer asked for the introduction of blood doping because according to Leipheimer the Rabobank was lagging behind in its doping plan. Later blood doping is been introduced surrounding that period. Later surrounding 2005 regarding the Rasmussen case that management strategy seemed completely transformed into an ostrich policy. Although the team have had a blood analyzing machine at its deposal in order to mask doping usage. After the Rasmussen conflict in the Tour de France of 2007 the Rabobank team became a little bit under pressure. It seems that the management wanted to change their policy a little bit. Boogerd retired and top talent Thomas Dekker must leave the team. Doping usage did still take place amongst others by team leader Menchov, however it remains uncertain what the role of the team managers was regarding doping. Only until 2012 when the Rabobank quitted the team sponsoring and the Sorgdrager report came out in 2013 the team seems to act a more pro-active anti-doping policy[75].



Graph 3: Percentage of doping users Rabobank

[75] http://www.cyclingnews.com/news/dutch-cycling-announces-strict-new-anti-doping-policy/ (2016, March 14)



Graph 4: Count of cultural anchoring categories Rabobank

7.2.3 Answering research hypotheses

Hypothesis 1a: Independency in enforcement process

Internationally the independency of the anti-doping battle was rather low at the start of this research period in 1998. In 1999 with the establishment of the WADA that independency started to decrease because of the power of the WADA, however only until 2004 that leaded to real decicive measures when the WADA Code came out. Also in 1999 the Dutch DoCeNed was established as Dutch independent doping entity, based on graphs 3 and 4 that did not seem to have any effects. In 2006 the Dutch anti-doping bodies merged into the Dopingautoriteit and became more powerful and financially stronger. Then in 2007 the Dutch anti-doping policy became more independent from the UCI because the first Dutch anti-doping law was introduced, as a result of the international UNESCO convention. From 2007 the doping usage and cultural anchoring increased significantly however the year 2007 also coincides with the Rasmussen incident and worldwide attitudinal conviction against the 2007 doping cases.

Hypothesis 1b: Unpredictability in control

The controlling process is internationally equally for all professional riders on the highest level although the out of competition controls could differ per country. The out of competition tests were introduced from 2001 thus that is the first point that the unpredictability potentially increased a lot. Then in 2002 the inspectors started to increase the predictability and in 2004 the whereabouts system was introduced. With that introduction in 2004 also the amount of in competition- and out of competition tests were increased. In 2001 there is a small decreasing effect measurable although is applies for both extent of usage and cultural anchoring only for the smaller groups. Possibly the team only wanted to remain risks for the best riders? From 2004 when the whereabouts system was introduced the usage and cultural anchoring as well decreased however in 2007 the Rabobank experienced a new peak in high extent users. Then in 2007, 2008 and 2009 the unpredictability increased more which parallel to the decreasing doping usage, however the doping usage especially decreased once the Rasmussen bubble burst in 2007.

Hypothesis 1c: Entities and collaborations in anti-doping

Equally like in paragraph 7.1 the effects of collaborations in anti-doping developments are extremely hard to measure because it is not a transparent process. Also in the Dutch case it is not possible to conclude anything about the collaborations on anti-doping because the Dutch case was not progressive in new anti-doping developments. From 2012 the attitude towards doping within the Dutch authorities increased a lot since the Rabobank affair came out. That resulted in many especially educational focused measures. National authorities could contribute to the international anti-doping developments but anti-doping technologic developments became more a case of the international WADA, instead of the national authorities.

Hypothesis 2a: Political conflicts

At the Rabobank team there is a significant effect visible from 2001 until 2003 when the UCI was in conflict with the WADA because the doping usage increased that time. Possibly the lack of performing new initiatives was a sign to dope. It could also be possible that the Rabobank usage increased because they wanted to compete with other using teams that time, of which Rabobank they knew they were there. Nevertheless the institutions failed to do something about the Rabobank usage increasing usage during the conflict period. Later on in 2005 during conflict situations between UCI and ASO again the usage in Rabobank increased. Possibly the focus of the UCI was too much on reforming the sport instead of increasing the quality of anti-doping controls. Again the salient of doping related articles on cyclingnews.com does not match with the usage and the conflict situations as well.

Hypothesis 2b: Policy discretion

Also for the Dutch authorities applies that the policy discretion was not determinative for new initiatives. In the first place most measures in cycling seemed to be reactive on several affairs and incidents and besides the 'decreasing WADA related measures' have in general have had positive effects towards the doping usage in teams. In practice the cycling federations are aligned to the UCI like in a corporative body in which they all have their saying. The KNWU does actually more apply UCI rules and regulations instead they implement them regarding anti-doping. Example of an initiative increasing measure is the governmental agreement (signed by the Netherlands in 2007) of the UNESCO convention which obligates the governments to provide more funds to the federations, which is in fact a restriction of the policy discretion. The most anti-doping related initiatives from the KNWU are observable from 2014 as chapter 6.2.3 shows.

Hypothesis 2c: Team focused measures

The team focused measures out of paragraph 6.3 seemed not too much related to the doping usage, also possibly due to the increasing doping usage during the first measures. The measures of 2006 and 2007 are related to and lowering of doping usage, the appointment of new UCI president Pat McQuaid, the increasing influence of Anne Gripper, who together educated teams and team managers and the MPCC agreement. The Rabobank quitted their sponsoring in 2012, from then there is no doping incident observable anymore. The effect of the 2014 measures is not measurable is the above patterns of doping usage.

7.3 Telekom

The German Telekom team gained notoriety as the main contender of Lance Armstrong in the Tour de France in the late 90's and early 00's. As one of Telecoms' most known team leaders Jan Ullrich became second in the Tour de France for several times behind Lance Armstrong. Before the start of the relevant research period Telekom won the Tour twice with respectively Bjarne Riss and Jan Ullrich in 1996 and 1997, who finally admitted their doping usage both. Team Telekom was been active in cycling until 2011. In the meantime the sponsor name changed into T-Mobile and later Team Columbia and HTC – Highroad, such as they can be found on data websites procyclingstats.com and dopeology.org. Team Telekom is been a predominant German team however surrounding 2007 when the sponsor changed the team became weigh more international. Regarding the doping case of team Telekom the structured doping usage already came out earlier related to the Rabobank and US Postal Service cases, although the other ones perhaps appeal to more imagination. In 2007 the unraveling of the doping network started[76] and in 2009 the Freiburger report (2009) which more extensively described the Telekom team culture came out.

7.3.1 Individual doping usage

Again the patterns of the individual doping usage will be described descriptively and can be found in Appendix 3. Table 8 provides an overview of Appendix 3. The data of the team sizes through the years is extracted from procyclingstats.com and the doping data comes from cycling4fans.d[77] and out of the doping databank website dopeology.org. Team Telekom is one of the teams of which the doping network came out which lead to relatively much knowledge about the usage of individuals. Some witnesses even declared that the Telekom management pushed the riders to dope. Striking in the Telekom case is that there seem to be two doped generation, first the Telekom team in the early 00's but also the generations in the mid 00's after the Freiburger report when the team in between was changed into T-Mobile. Anyway the doping culture of team Telekom seemed to be pretty broad through the organization, team manager Walter Godefroot and Rudy Pevenage are suspended for their involvement and also doctors and soigneur Cecchini, Schmid, Heinrich and D'Hont are cited on dopeology.org. Team doctors Schmid and Heinrich admitted their involvement in the doping network in 2007. The Freiburger report out of 2007 explained the doping cultured in the late 90's and early 00's pretty extensively, however most involved people who confessed their usage are do not gladly speak about it. Examples of people who are related to doping incidents with other teams are Vinokourov, Botero, Hondo, Aerts, knaven, Ludewig, Sevilla, Savoldelli, Rogers, Sgambelluri, Lombardi, Julich, Kopp, Muller, Totschnig, Ivanov, Mazzoleni, Axel Merckx and Possoni. It cannot be excluded that they were also using at Telekom because the mentioned examples did not talked about the incidents in public. Except Possoni all examples rode for Telekom between 1998 and 2006. When the Freiburger report came out in 2007 and the Telekom team became attached to the MPCC they started with their pro-active anti-doping policy including internal doping tests with the ban of Honchar in 2007 as the best proof (see appendix 3). This anti-doping policy may also been driven by the hard anti-doping perceptions in the German society, with the Tour de France broadcasting ban as most striking example. From then the doping cases decreased.

[76] http://www.nytimes.com/2007/05/25/sports/othersports/25cycling.html?_r=0 (2016, March 11)
[77] http://www.cycling4fans.de/index.php?id=5767 (2016, March 11)

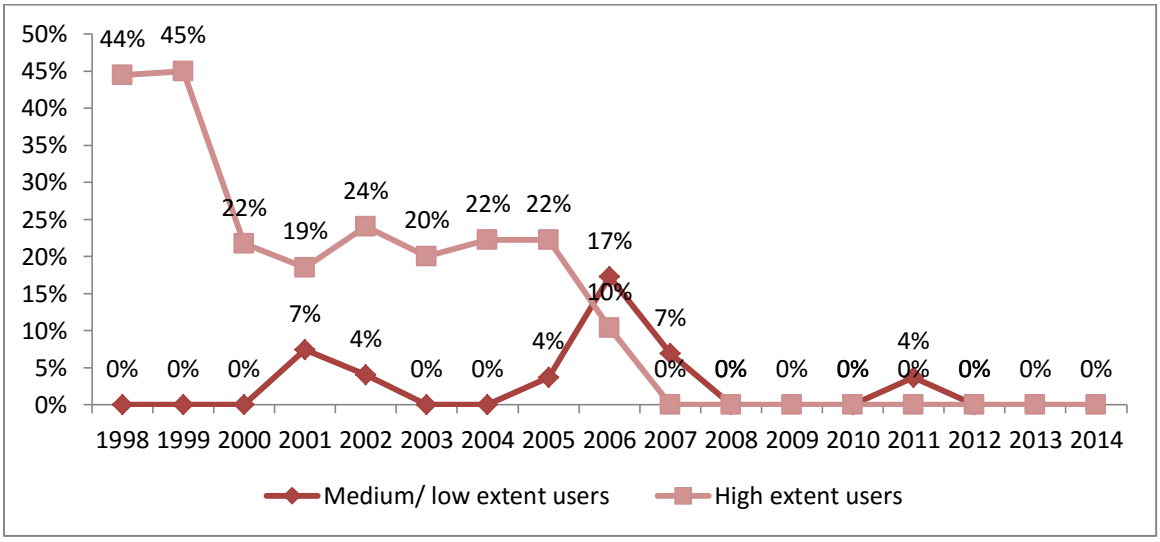
Telekom	Substance	Confessed	Suspended	Time period	Extent of use	Confession statement
Ullrich	EPO/blood	No	Yes in 2002	1998-2002 2004-2006	4	5
Zabel	EPO/blood/cortisone	Yes	Yes in 2007	1998-2005	5	5
Aldag	EPO	Yes	Barred	1998-1999 2003-2005	4	5
Riis	EPO	Yes	Yes in 2007	1998-1999	4	5
Heppner	EPO	No	No	1998-1999	4	5
Bolts	EPO/ hGH	No	No	1998-2002	4	4
Henn	EPO/ testosterones	Yes	Yes in 1999	1998-1999	4	5
Dietz	EPO/ testosterones	Yes	Barred	1998-1999	4	3
Jaksche	EPO/ blood	Yes	Yes in 2006	1999-2000	4	3
Klier	EPO/blood and more	Yes	Yes in 2013	2001-2006	5	3
Livingston	EPO/ blood	No	Not at telek	2001-2002	3	5
Elli	Cortisone/hGH/ insul	No	Yes in 2002	2001	2	5
Wesemann	EPO	No	No	2002-2006	4	5
Werner	EPO	No	No	2003-2005	3	3
Kohl	EPO/blood/CERA	Yes	Yes in 2008	2005-2006	3	5
Sinkewitz	EPO/blood and more	Yes	Yes in 2007	2006-2007	3	4
Kloden	Bood	No	commuted	2006	3	2
Kessler	Blood	Yes	Yes in 2007	2006	3	5
Sevilla	Blood	No	Yes in 2006	2006	3	5
Bernucci	Sibutramine	Yes	Yes in 2007	2007	1	1
Honchar	?	No	No	2007	1	?
Rasmussen	Missed tests	Yes	Yes in 2011	2011	?	?

Table 8: Doping usage Team Telekom

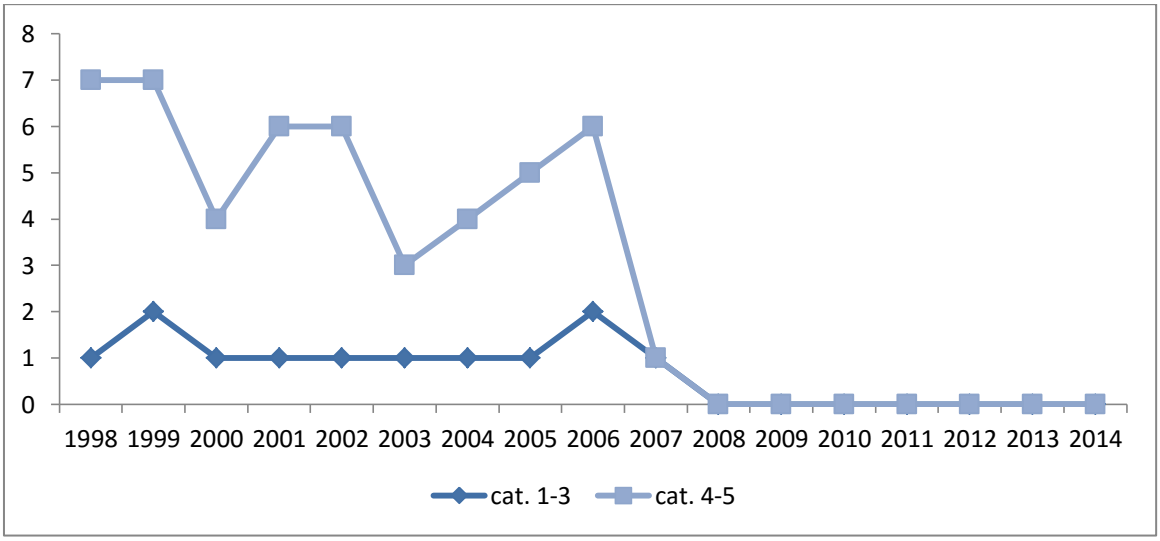
7.3.2 Pulled team conclusion

The Freiburger (2007) report clearly proved the elaborated doping network in the Telekom team in the late 90's and early 00's including the involvement of manager Pevenage, Godefroot and the mentioned team doctors. Some witnesses declared the team pressure behind using forbidden substance from the management. As graph 5 and graph 6 are supporting the presence of the doping network in 1998 is very clear. From that period there is much information available about the most famous Telekom riders however it also strikes that many riders keep silent after imputations or condemning's. Especially the 'silent' amount of riders that were caught in their periods after the active Telekom periods is strikingly huge. For some of them it is questionable how realistic is would be not to dope at Telekom in the best parts of their careers in a greater doping era. In the early years of this research the Telekom riders are especially using EPO and also testosterone and cortisones are very common. Apparently the Telekom doping network coordinators felled they were lacking behind a bit in their doping technologies opposed to their main concurrent US Postal Service. In 2001 Telekom contracted Livingston with the aim to increase the quality of the doping plan within the team, such as Jaksche stated. Later the Telekom team also started with performing blood doping, some riders worked with Doctor Ferrari and some with Doctor Fuentes. Then surrounding 2005 and 2006 the feeling of wrongdoing increased and the doping network slowly collapsed. Riders begin to dope more individually and the management quitted wearing any responsibilities. In 2006 and 2007 some former dopers were fired. First not getting caught was the main objective but later in 2007 the team started an intern anti-doping program. The dismissal of Honchar was the proof that the intern

doping program worked. However that does not imply that there was not used anymore. Several statements and admissions imply that doping usage was changed in administering micro dosses. Some caught cyclists such as Kohl and Sinkewitz are convinced that they were one of the few caught cyclists out of the many dopers around the mid 00's. They state that using micro dosses became very hard detectable even with help of the biological passport.



Graph 5: Percentage of doping users Telekom



Graph 6: Count of cultural anchoring categories Telekom

7.3.3 Answering research hypotheses

Hypothesis 1a: Independency in enforcement process

From international perspective the way to more independency in the battle against doping was applied from 1999 when the WADA was established. That time, when also the attitude towards doping increased due to the Festina affair, the doping usage in Telekom decreased slightly. Then in 2002 the German doping authority NADA was established, a few years later opposed to the other selected cases. Also from the year 2002 the doping usage and cultural anchoring decrease slightly. Later in 2004 the German cycling federation signed the WADA Code which did not cause anything yes, however when the first actions were undertaken the results speak for themselves. In 2007 the German government endorsed to the UNESCO convention and that leaded to a threefold lawmaking and a supplementation in 2011. From 2007 the doping usage decreased to marginal gains, which is

especially caused by the internal anti-doping strategy of the team. However the increasing independency of anti-doping might have affected that process.

Hypothesis 1b: Unpredictability in control

The controlling process is internationally equally for all professional riders on the highest level although the out of competition controls could differ per country. The out of competition tests were introduced from 2001 thus that is the first point that the unpredictability potentially increased a lot. Then in 2002 the inspectors started to increase the predictability and in 2004 the whereabouts system was introduced. With that introduction in 2004 also the amount of in competition- and out of competition tests were increased. From 2001 there is no measurable effect in the doping usage, Telekom tried from 2001 to increase their doping strategy by hiring Livingston in order to copy the US Postal strategy. Then in 2004 with the introduction of the whereabouts system there still changed anything in Telekom's doping usage, possibly because the system was already pretty professional. Later in 2007 the doping decreased due to the latest unpredictability improvements and mostly due to Telekom's anti-doping policy.

Hypothesis 1c: Entities and collaborations in anti-doping

Like already emphasized in chapter 7.1 it is not possible to conclude anything about national technologic developments. National authorities are able to contribute in the international anti-doping developments but anti-doping technologic developments became since the introduction of the WADA more a case of the international WADA, instead of the national authorities. Beside the process of collaborations is not a transparent process in order to enhance the predictability and chance of getting dopers caught.

Hypothesis 2a: Political conflicts

Between the conflicts period, of the UCI in conflict with the WADA between 2002 and 2004, there is not a significant effect available on the usage of doping in the Telekom team. On the other side the doping usage is also not decreasing in that time thus the conflict could have influenced the vigor of the WADA. Later in 2005 the usage increases again equally like in team Rabobank, however at Telekom that increase growth is of short term because Telekom started in 2007 their internal anti-doping policy.

Hypothesis 2b: Policy discretion

Like already indicated in chapters 7.1 and 7.2 is the decreasing policy discretion, which lies parallel to the introduction and development of the WADA, not determinative for doping usage in teams at all. The loss of policy discretion is parallel to the creation of more worldwide uniformity which is one of the goals of the WADA. The German government signed the approved the UNESCO agreement in 2007 which immediately leaded to the RAPID program as new initiatives. Which is subsequently just a proof for the fact that policy discretion in cycling does not provide more new initiatives?

Hypothesis 2c: Team focused measures

Also in the Telekom case especially the 2006 and 2007 measures seem to relate to the doping usage in the Telekom team. The internal anti-doping strategy within the Telekom team seemed to be very effective for the doping usage, which possibly is related to other team related initiatives such as the MPCC movement. Although the summed measures out of paragraph 6.3 directly seemed not to be very strong related to usage, they possibly affect new initiatives.

7.4 Cofidis

According to dopeology.org Cofidis is the team with the biggest sum of doping incidents and positive tests. Of course the most important reason for that great amount of incidents is the length of Cofidis its existence. Cofidis is the only professional team that already was active in 1998 at the start of this research span and does still exists today, without any kind of mergers or sponsorship changes. Nevertheless, where sponsors like Rabobank and Telekom explicitly quitted their sponsoring activities due to doping allegations, it is remarkable that the French cycling team survived all incidents and that sponsor Cofidis remained loyal to the team. Cofidis is not always been active on the highest pro tour or world tour level however they always competed as professional and were always invited on the biggest race of the year; the Tour de France. Doping at team Cofidis is characterized by the hard criminal proceedings because the French policy was responsible for anti-doping proceedings on French soil in the late 90's and early 00's. Many cases are accompanied by raids, arrests and interrogations. The biggest doping affair of the Cofidis team took place in 2004 treated on cycling4fans.de. Criminal proceedings from French police explored the doping network of team Cofidis. Amongst others soigneur Madejak, doctor Menuet and manager Bondue were raid and finally suspended by the Cofidis team[78]. As prove for the doping network there were doping substances found in the Cofidis van, however the villian never came out[79]. Again Cofidis received much attention in the Tour de France of 2007 when Cofidis rider Moreni was tested positive and the whole Cofidis team abandoned the Tour because the attitude towards doping in the media was pretty big after several doping cases. Cofidis was the second team that withdrawn the Tour in 2007 after Astana already set the example when Vinokourov was found positive.

7.4.1 Individual doping usage

The high amount of positive tests and incidents on dopeology.org was already mentioned. In between the research period Cofidis have had 7 positive tests and 37 incidents. The individual doping patterns will be treated in Appendix 4 and summarized in table 9. In 1998 and 1999 Cofidis have had many doping cases. Famous doping cases are Frank Vandenbroucke, Philippe Gaumont and Francesco Casagrande, but also US Postal teammates Armstrong, Livingston and Andreu rode already for Cofidis. That was in 1997, the year before the start of this research. Armstrong and Andreu admitted already using doping before joining Cofidis and however did not explicitly talk about Cofidis. Then there was the 2004 Cofidis doping case. Cycling4fans.de explained there were already in 2003 some interrogations and house searches by French police because doping was a criminal case in French. Finally that proceedings lead to the arrest of Polish rider Marek Rutkiewicz in January 2004, Rutkiewicz rode for Cofidis until the end of 2003. Rutkiewicz declared the involvement of Cofidis soigneur Bogdan Madejak who was immediately suspended from the Cofidis team and once back on French soil also arrested[80]. Madejak seemed to be the spin in an East European doping network with amongst others Raimondas Rumsas. Later Cofidis riders Gaumont, Millar and Lelli amongst others appeared also to be involved too[81]. As already mentioned accompaniment Menuet and Bondue were involved too. Riders like Alessandro Bertolini, Leonardo Bertagnolli and Jimmy Casper are accused for doping usage later in their careers after their Cofidis periods. Also the doping cases of Di Gregorio, Cedric Vasseur and Verbrugghe strikes however they are cleared.

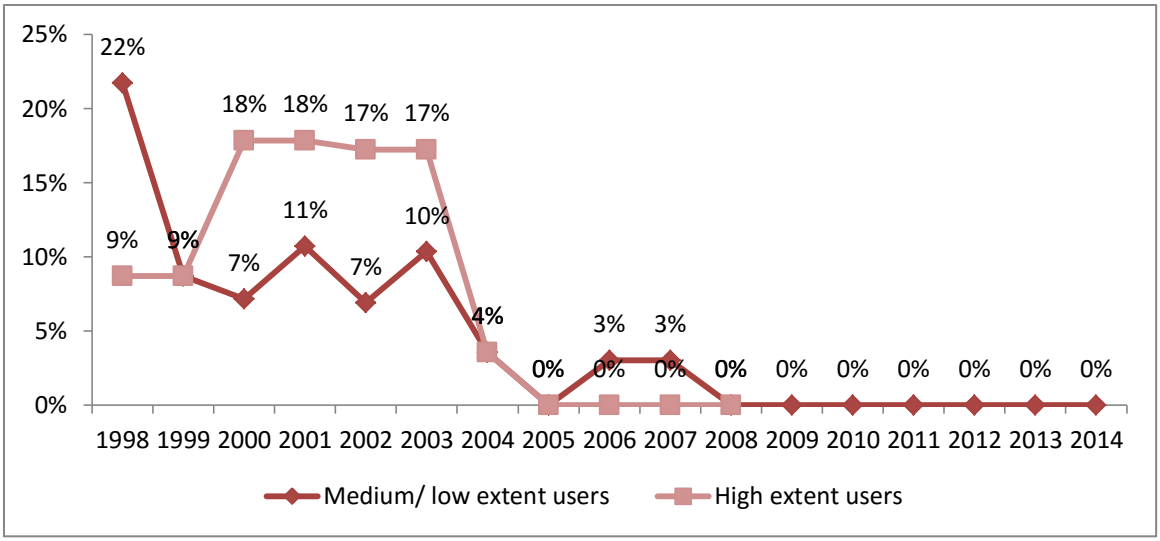
[78] http://autobus.cyclingnews.com/news.php?id=news/2004/may04/may05news
[79] http://autobus.cyclingnews.com/results/1998/sep98/sep12.shtml
[80] http://autobus.cyclingnews.com/news.php?id=news/2004/jan04/jan13news2
[81] http://www.cyclingnews.com/news/millar-faces-trial-with-former-cofidis-team-mates/

Cofidis	Substance	Confessed	Suspended	Time period	Extent of use	Confession statement
Gaumont	EPO and way more	Yes	Yes in 2007	1998-2004	5	5
Lelli	EPO	Yes	Yes in 2004	1998-2004	3	5
Livingston	EPO	No	No	1998	3	5
Julich	EPO	Yes	No	1998	4	3
Casagrand	Testosterone	No	Yes in 1998	1998	3	5
Desbiens	EPO	No	No	1998	3	5
Meier	EPO	No	Yes in 2001	1998	3	5
VDB	EPO and way more	No	Yes in 1999	1999-2000	5	5
Mattan	EPO/ cortisones	Yes	No	1999-2003	3	3
Planckaert	EPO/hGH/ NESP	No	Yes in 2008	2000-2003	4	5
Sassone	EPO/hGH and more	Yes	Yes in 2007	2000-2003	4	4
Peers	EPO/hGH/ NESP	Yes	Yes in 2007	2000-2003	4	3
Clain	?	No	No	2001-2003	0	0
Rutkiewicz	EPO/hGH/testost	No	Yes in 2007	2001-2003	4	5
Millar	EPO	Yes	Yes in 2004	2001 and03	2	3
Valentin	Heptaminol	Yes	Yes in 2006	2006	1	0
Moreni	Testosterone	Yes	Yes in 2007	2007	2	1

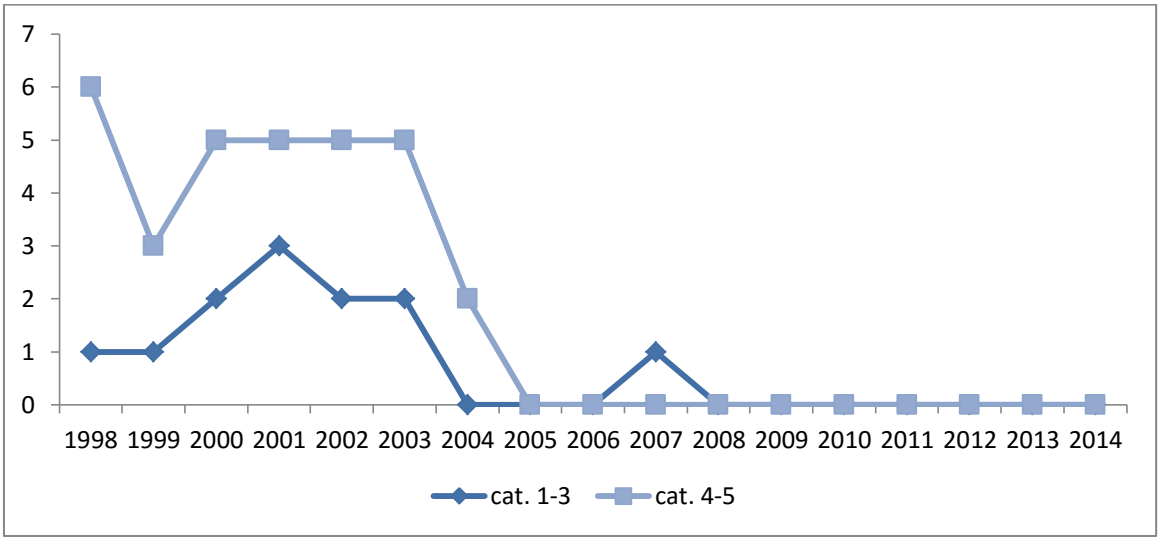
Table 9: Doping usage Team Cofidis

7.4.2 Pulled team conclusion

Generally it is obvious that at least the whole Tour selection of team Cofidis in 1998 used EPO. Later in the years until 2004 it appeared that there was an internal doping network within the team with involvement of Cofidis accompaniment. Soigneur Madejak was the first caught one who especially collaborated with the East European riders. Later also the involvement of Menuet, Bondue and Deloeuil was proven. However that does not directly proves the usage of any individual it seems that doping was pretty common in the Cofidis team and at least with implicit approval of the Cofidis management. Strikingly in the Cofidis case are the several arrests because of the French policy which was authorized due to French law that time. The hard Festina affair did not made enough impression for the riders to quit doping although Julich declared the opposite for himself. The Cofidis case provides the image of a French doping network in the team, with the foreigners to dope in their own networks. The Polish enclave was already a strong example, but also the Belgiums in the veterinarian case and the Vandenbroucke, Mattan duo endorse this conclusion. Once the Cofidis doping network was coiled in 2004 the team was pretty much cleaned up. After 2004 Cofidis have had only some small doping incidents with Moreni as huge exception. From 2004 there not seemed to be any signs of structured doping usage. In comparison to the other cases the doping usage seemed to quit earlier. However the general impression is that the Cofidis network was coiled in 2004 because the network was less professional and sophisticated in comparison to the three former cases.



Graph 7: Percentage of doping users Cofidis



Graph 8: Count of cultural anchoring categories Cofidis

7.4.3 Answering research hypotheses

Hypothesis 1a: Independency in enforcement process

Opposed to the other selected case the France anti-doping bodies were already more independent because the French policy were pretty convinced in their search against drug possession on French soil. Besides the drug authorities the French police pretty much served as an extra anti-doping entity in several cases. In 2004 the France cycling federation signed the WADA Code from which the doping usage in Cofidis decreased to marginal gains. Of course the worldwide uniformity would be great for the French cyclists however the decreasing doping usage in 2004 is fully related to the 2004 Cofidis doping case. Pretty clear from that doping case is the impact of the French police. Later in 2006 the French AFLD was established as financial and organizational independent entity from the UCI. French governments introduced anti-doping laws in 2006, 2008 and 2011.

Hypothesis 1b: Unpredictability in control

The controlling process is internationally equally for all professional riders on the highest level although the out of competition controls could differ per country. The out of competition tests were introduced from 2001 thus that is the first point that the unpredictability potentially increased a lot. Then in 2002 the inspectors started to increase the predictability and in 2004 the whereabouts

system was introduced. With that introduction in 2004 also the amount of in competition- and out of competition tests were increased. At Cofidis there is no measurable effect during the 2001 changes but on the other side in 2004 the doping usage decreased to almost nothing. Besides the increased unpredictability the French police played an important role in this.

Hypothesis 1c: Entities and collaborations in anti-doping

Like already emphasized in chapters 7.1, 7.2 and 7.3 it appear to be impossible to conclude anything about national technologic developments. National authorities could possibly contribute to the international anti-doping developments but anti-doping technologic developments became since the introduction of the WADA more a case of the international WADA, instead of the national authorities. Beside the process of collaborations is not a transparent process for the outside world in order to enhance the predictability and to enhance the probability of protection.

Hypothesis 2a: Political conflicts

Like already illustrated the doping usage in team Cofidis went down in 2004 when the Cofidis team doping network burst. Nevertheless it should not be completely accidental that 2004 was also the year when the UCI WADA conflict was more or less over. Since 2004 there was never used that much doping within Cofidis to such an extent that it could be described to conflict situation with or within the UCI. The salient on doping related articles on cyclingnews.com do fit in the Cofidis usage profile thus there is not a significant effect caused by the incidents that might have caused unrest.

Hypothesis 2b: Policy discretion

In the former three cases policy discretion did not turned out to be a determinative character for more new anti-doping related initiatives, which also applies for the French federation FFC. The research to the French case did not deliver any specific doping related new initiatives from the FFC although the French have meant a lot in the history of anti-doping. The creation of more uniformity is a way of no turning back in the world of cycling because it functioned really well. But also the restricted policy discretion did not leaded to fewer initiatives because there also were not that many anti-doping initiatives before the introduction of the WADA. In fact the WADA turned out to be the perfect body for coming up with new initiatives, even though all the conflicts that they have had with the UCI.

Hypothesis 2c: Team focused measures

At the Cofidis case the doping usage patterns does not look to match with the ranked team focused measures out of chapter 6.3. Of course the observable doping usage was already stopped for the greatest part in 2004 as a reaction of the 2004 Cofidis affair. From before that period there only seemed to be a significant dip in doping usage in 1999. 1999 was the year when staff and accompaniment became equally responsible and punishable opposed to cyclists based on their licenses. Furthermore the effect of team focused measures is not demonstrated however that does not exclude the possible attitudinal or preventive effect on the longer terms.

8. Conclusions and discussion

In this final chapter the overall conclusions of this study will be drawn. First the general research question will be answered, then the conclusions per hypothesis will be treated and finally the limitations of this research will be discussed.

8.1 Research question

The general research question was: *How was it possible that doping behavior in the professional peloton remained uncontrolled by the authorities from the time period after the Festina affair, and to which extent did the UCI, in collaboration with affiliated authorities, successfully organize their anti-doping policy?*

The world of cycling is very complex because the origin of international issues on the professional level contexts is embedded in many different contexts of teams and countries. Generally you can conclude that the UCI is not always been a professional organization with the accompanied administrative checks and balances that are needed in enforcement and in the organization as well. The UCI slowly made things up during the research period but in setting priorities the UCI always performed a rather reactive policy. Just like in the real world you can say that susceptibility to fraud always is being caused by a lack of quality enforcement. On the other side, looking at the agent, most wrongdoings are pretty much embedded in the culture. Thus besides stronger and more professional enforcement strategies also the creation of awareness would have been very important. During the research span the UCI successfully ban out team organized doping in the four researched cases, however information asymmetries and individual doping usage still could exist in the current peloton. Beneficial resources were especially the WADA code and the biological passport.

The most important step in the development and rise of actual measures was the creation of independent delegated responsibilities, with the broad governmental support in the form of the UNESCO agreement as the first step. From then the organization of cycling started to professionalize with amongst others increased unpredictable testing processes. Several conflict situations might have harmed that uniformity process, WADA and UCI appeared highly dependent on each other.

8.2 Conclusion per hypothesis

This comprehensive research has led to a clear picture of the discourses in the administrative world of cycling. Despite not all the processes in enforcement are very transparent this study though gained enough information in order to say something about the administrative causes of doping usage in teams. In order to provide a clear answer on the research questions the 6 hypothesis will be answered seperately.

Hypothesis 1a

The extent of delegated responsibilities in enforcement is negatively related to doping use at the team level.

There is definitely a perceivable trend in the creation of more independent delegated responsibilities in the battle against doping from the establishment of the WADA in 1999. Also in accordance with the CIRC report this had to do with a lack of professional development in the late 90's. Effectively the increasing independency in the battle against doping started around 2004 and 2005 when the WADA Code and the UNESCO convention came out. These were signed and performed at diverging years

different per case but in general there are strong similarities visible. Providing the right checks and balances and distribution of tasks are necessary conditions in enforcement in order to decrease the vulnerability to fraud. Perhaps there is not a direct relationship between doping usage and independency however more independency seemed to lead to more vigor per authority. During all the creations of independencies there is not a single usage indicator that completely differs with independency creations in all the cases. And every case has an effective measure which is directly related to the creation of more independency. Accept France, but the France case was already to some extent independent from the UCI due to the high intervention of the French police. Thus Hypothesis 1a can be accepted with some certainty because the extent of delegated responsibilities definitely affects the vigor and usage of doping for a great part on the longer terms.

Hypothesis 1b

The unpredictability of doping controls internationally, and per team, is negatively related to doping use at the team level.

The creation of more unpredictability is one of the conditions for effective doping controls. The most striking thing out of the research is different way how the teams "abusers" deal with the predictabilities. The US Postal service team was very professional and they always found ways in avoiding tests, independent from new testing strategies. The Rabobank and Telekom tried to adept the US Postal strategies however it seemed that they never were as smart and informed as US Postal. The Rabobank and Telekom team continued the doping strategy a little bit too long opposed to the anti-doping system. The Cofidis team was not professional at all in 'monitoring' the institutions. However since the 2004 affair Cofidis seemed to have been rather clean. Clearly the way to more unpredictable controls is extremely important for the professionalization of doping controls, but you remain dependent on the teams. The introduction of the whereabouts system in 2004 was a huge step in creating unpredictability and from that period the doping usage was decreasing significantly, especially in the lower using typology categories. It can be concluded that the unpredictability definitely affects the doping usage. However it more affects the risks that cyclists are willing to take, which can be translated in effects in the extent of usage or micro doses in training, because the total amount of controls is still marginal.

Hypothesis 1c

The number of independent entities over time negatively related to doping use at the team level.

In chapter 5 became clear that the process of possible anti-doping focussed collaboration is very closed. Of course is the WADA as leading entity trying to be very transparant as organization but it is unpossible to provide a realistic picture of collaboration versus technologic developments. Nowadays the responsibility for anti-doping developments lies clearly for the biggest part at the WADA. The WADA coordinates the process and since the introduction of the WADA new technologic developments seem to go way faster. Thus because it is higly centralized there is no reason to conclude that the count of different entities and collaborations will contribute to the doping usage.

Hypothesis 2a

The amount of conflict between UCI and national and international federations authorities positively affect positively affect doping use in teams.

The conflicts between the UCI and the WADA seemed to be an ongoing process which is weakening and getting stronger again continuously. However the most striking conflict when the UCI did not wanted to sign the WADA Code in 2003 was clearly reflected in the growing patterns of doping usage. Then it strikes a little bit that also the conflict between the UCI and ASO leaded to increasing doping usage surrounding 2005 in Rabobank and Telekom. Therefor it became very clear that any conflict situations within the UCI harm the UCI its focus on quality improvement in enforcement. Thus there is definitely a positive perceivable effect from conflict situations to more doping usage, however there could also possibly be situations in which conflicts will be beneficial to better anti-doping developments.

Hypothesis 2b

The amount of interpretation leeway for implementations in national authorities negatively affects doping use in teams.

Hypothesis 2b can be rejected applied to the world of cycling because there are not so many implementation issues in the enforcement strategy. Since the introduction of the WADA the interpretation leeway became only smaller even though the doping usage decreased on average in the four cases.

Hypothesis 3c

The introduction of hard and soft team focused anti-doping regulations by any institution negatively affects doping use in teams.

In general the team focused measured are not related to doping usage at all. However there are examples of really effective measures such as the internal anti-doping policy from Telekom in 2007, which was extremely negative related to the doping usage in the team. Thus not necessary every measure or form of participation will be beneficial in decreasing doping usage but probably there must be created a lot of awareness in the doping problems. Probably the Tour de France broadcasting ban in Germany contributed a lot to the increased awareness of the problem in this example.

8.3 General conclusion

In general, based on hypothesis 1a, you can conclude that the extent of delegated responsibilities is strongly related to doping usage in teams. Responsibility is not a direct anti-doping measure on itself but apparently more independencies in the enforcement process leaded to new initiatives and more effectivity. Important measures that are originated by the creation of more independencies, who turned out to be very effective, are the whereabouts system including, biological passport and the ADAMS system, the improved quality of testing with help of processes and check and balances in the process, and new technologic developments such as anti-doping tests.

8.4 Limitations

In the first place this study is a qualitative research which means that the interpretation of the data is to some extent subjective, especially the distribution of the two dependent variable indicators in the typologies. For both broad independent variables the data is way more objective however the data is not clearly presented. Thus another one could possibly find different measures to include in these variables, though I make every effort for me to minimalize that chance. Unfortunately not all the information was available from a strategic policy perspective and not even every policy decision is on paper. Especially that harmed the answering of hypothesis 2b. Much enforcement related processes are being performed behind closed doors, such as targeting and strategy making. Available information such as the federations' budgets out of the annual reports are only available from the mid 00's and budgets are not valid because the enforcement process changed a lot over time, besides this research concerns the effectivity of the enforcement process and not the efficiency. Nevertheless this research should be pretty good reproducible with only some possible nuancing differences in appointing the importance of some measures, allocating the typologies and possibly in drawing the conclusion.

Another limitation of this research is the causality. Based on the doping patterns I was able to draw clear conclusions which lay parallel to the administrative events. It is easy to show which processes are parallel to each other but the causality will always remain doubtful. Besides the causality in enforcement will always be hard to measure because the effects of policy changes possibly could take place a long time after the implementations. Nevertheless I am relatively certain about the conclusions of the hypothesis, partly due to the extensive pre research and my personal knowledge, but also because of the research directions from the theoretical chapter.

Then the biggest limitation of this research is the reliability of the dependent data. There is always the possibility that many doping users did not come out yet in publicity, for instance because cyclists could be using undetectable substances. Also due to the difference in time between the sampled riders who were professional in 1998 or possibly in 2012. In first, those differences should be equally in all the cases. Secondly I decided to select team cases of which is very much information available. And also I decided to measure only doping users instead of non-users, because they are at least more reliable. The variations in usage made me able to draw fluctuations in doping usage. Possible new doping admissions should not lead to a big change in my conclusions.

Subsequently it only remains questionable if the entire enforcement process effectively led into just a changing doping usage, no usage, less usage or only different usage patterns. Clearly some enforcement initiatives lead to a change in usage, which is the ultimate goal for the enforcement process. However then is still remains uncertain if the information asymmetry gap is disappeared or the cyclist perhaps are using different products of using micro doses as mentioned more often.

8.5 Recommendations and directions for further empirical research

For the future it will be important that the complicated process will not become more complicated. It is beneficial that all inspectors and doping labs are meanwhile WADA accredited but all the different responsible authorities for only one possible cyclist or race are too complicated, on the other hand possibly necessary due to the geographical restrictions. For the future that possibly can be avoided by implementing some kind of measuring chips in the blood of the cyclists. Transparency always

needs to be enhanced in the search to a more honest society, not solely for the institutions but also for the 'outside world'. Transparency will increase the awareness of being watched. On the other hand solutions like this always touches issues of privacy thus I assume this will become a longstanding discussion. In cycling the presence of checks and balances and the separation of powers seemed to be crucial in the development of qualitative enforcement, thus for the future issues this should be stimulated even more in cycling and other sports as well.

For the shorter terms I would advise the enforcing authorities to emphasize the riders a lot more on the possibility of retesting blood samples. This might exclude or at least decrease usage of undetectable products, maybe for starting such a strategy you can first consider an amnesty. This study learned that retesting only happened for a few times but in my opinion you should even prefer the retesting above the actual testing. With such a strategy you will enhance the possibility of positive tests that ever come out. And at the same time you will not provide any reference for doping users of 'passing' the doping tests. I assume nobody want to dope his entire career when there arises a rather security of testing positive at least ever, besides dopers cannot take new anti-doping development into account.

Directions for further research could be a more extensive approach on the effects of delegated responsibilities on doping usage or anti-doping policies, because that is on my opinion a whole research on its own. Furthermore it will be interesting to gain more knowledge about the collaborations in anti-doping labs, but that shall possibly hard to realize.

Appendix 1: Individual doping usage US Postal service

Kevin Livingston

Kevin Livingston is found positive for EPO from retrospective analyze over 1999. He rode only two years for the US Postal Service team in 1999 and 2000. Both years he made it to the Tour de France squad and played a crucial role in Lance Armstrong his victories. His extent of use is assessed as medium category 4. There is officially nothing known about Livingstons extent of doping usage but the doping products he used at least make clear that he was an medium user who also used during the races, since his usage is not suggested incidental by the other cyclists. Livingston never spoke in public about his doping past but from the witness statements in the CIRC report became clear that Livingston used besides EPO also blood doping in the presence of his team mates and staff (CIRC report, 2014; dopeology.org). His cultural typology is rewarded as socialized behavior because he used doping with the presence of many others and he did not confessed until today.

Lance Armstrong

Lance Armstrong was the central key figure in the CIRC report and according the CIRC report he did not solely used several doping products but he also encouraged team mates, avoided controls and he smuggled some positive doping tests away. Lance Armstrong admitted the use of many products like EPO, blood doping, human Growth Hormones, cortisones and Testosterone. Armstrong stated he used doping from the beginning of the US Postal team in 1998 until his last Tour de France title in 2005 when he quitted cycling. In practice Armstrong was the boss of the team. To illustrate his authority in the team the CIRC commission stated that Armstrong determined when his teammates were allowed to win stages, in order to avoid doping related suspicions. Then in 2009 Armstrong did made his comeback in cycling. He stated that he was clean then however the CIRC report states that there is some evidence for blood doping. In fact is does not matter in this context because the US Postal/ Discovery team existed anymore when Armstrong made his comeback (CIRC report, 2014; dopeology.org). In both categories extent of doping use and cultural background is Lance Armstrong classified in the strongest class.

Benoit Joachim

Then Benoit Joachim was one of the three positive doping tests but was remarkably enough finally cleared of the doping charges. He was accused for using nandrolone during the Luxembourg national championships in 2000, but was cleared because of the long sample analyzing period. Joachim stated he never used doping is his career although he have had the change to do is, when he was offered to cooperate with trainer Michele Ferrari. He even regrets he did not because he it would have been better for his career. The reliability of his statement could be taken into doubt, because the nandrolone was found in his blood. But there is no indication that Joachim used systematic doping is his career (dopeology.org).

Frankie Andreu

Frankie Andreu is one of the whistleblowers in the whole US Postal Service story. He did used banned substances like EPO himself but when he already ended his professional career Andreu confessed his doping use because he believed doping was harming the sport. Andreu admitted in an affidavit Armstrong offered him several times to collaborate with “doping doctor” Dr. Ferrari[82]. Frankie

[82] http://d3epuodzu3wuis.cloudfront.net/Andreu+Frankie+Affidavit.pdf

Andreu did refuse that offers mainly because he did not wished to be affiliated with "doping doctor" Michele Ferrari. However Frankie Andreu yielded for the banned substances from the team doctors Dr. Caleya and Dr. Luis Garcia del Moral. Andreu took EPO and other vitamin injections of which he did not always knew what his body received. Although he was not always aware of what he received Frankie Andreu used doping once in a while in preparations and during competitions as well. He completely yielded for the peer pressure and did regret his deeds. Andreu is particularly known as whistleblower because he not only admitted his own use but also accused Lance Armstrong. Frankie Andreu was in 1996 with his wife Betsy Andreu in the Hospital where Lance Armstrong admitted for medical reasons he used many banned doping products (dopeology.org).

Tyler Hamilton

Besides Frankie Andreu Tyler Hamilton is one of the other whistleblowers. Hamilton admitted his use of doping partly due to answer on federal investigations, stop lying and helping the sport. He gone completely honest in his book The Secret Race in which he mentioned all involved persons and other doping abusers, which was pretty rare in the "omerta" cultural environment. Tyler Hamilton pointed to Lance Armstrong as spindle in the doping culture of the US Postal Service team; *"Lance worked the system… Lance was the system."*[83] Although the allegations of Tyler Hamilton to Lance Armstrong his address were pretty clear in his confessions statement in 2011 and his book in 2012, the cycling world did not burst out. Hamilton was founded guilty in the public opinion but his allegations towards Armstrong were not fully taken seriously, until the USADA report came out. Hamilton was pretty close to Lance Armstrong during his US Postal time and took several products of doping, especially EPO. Later on in his career Hamilton was caught for blood doping however employing for other teams, thus not that relevant. Hamilton did really cheat from his desire to be a team leader and to win races (dopeology.org).

Jonathan Vaughters

Jonathan Vaughters has become known as a real anti-doping fighter from his career as sportive director after his professional career. Vaughters rode only two years for the US Postal team in 1998 and 1999 and admitted his broad doping use. He especially used EPO and seemingly not that much as his teammates. Vaughters declared he only used doping because he felt forced to dope in order to remain strong enough for professional cycling. He also declared about the doping culture that doping talk was pretty open within the team environment in 1998, only young neo's were somewhat shielded. From the big Festina scandal in the tour of 1998 the doping talk became more cautious, but with the arrival of team manager Bruyneel and Dr. Luis Garcia del Moral doping use became way more aggressive and doping provision turned into real doping plans. Then in 2000 Vaughters switched from team and he was surprised by the "low amount" of doping use in his new team Credit Agricole[84]. He remained to use smaller amounts of EPO in his career, but he felt that using the amounts of doping at US Postal was not responsible in order to pass the doping controls (dopeology.org).

Levi Leipheimer

Levi Leipheimer rode a pretty short period for the US Postal Service team in 2000 and 2001, later on in 2007 he made his comeback at the team that is sponsored by Discovery Channel at that time. Later

[83] http://espn.go.com/oly/cycling/story/_/id/8319041/book-tyler-hamilton-says-lance-armstrong-gave-peds
[84] http://d3epuodzu3wuis.cloudfront.net/JV+Vaughters+Jonathan+Affidavit.pdf

on he followed sportive director Bruyneel to Astana and RadioShack, but that is of no importance in this research. In his affidavit[85] Leipheimer mentioned that he have had used doping before arriving at US Postal and continued on his own initiative in his first year at the team. The team doctor Dr. del Moral was informed and sportive director Bruyneel also later on. In 2001 Leipheimer received instructions from the team doctor how to use EPO, seemingly in order to avoid positive doping tests. Then thereafter at the end in 2001 Leipheimer also received products from the team doctor like Actovin, but Leipheimer also found out that other teammates used more like Human Growth Hormones and possibly blood doping. Then Leipheimer moved to the Rabobank team which is an important linked case in this research. Leimheimer continued to use doping and in 2005 started working with Armstrong his trainer and doping instructor Michele Ferrari. In 2005 Leipheimer also started blood doping in collaboration with Dr. del Moral, at that time former US Postal team doctor. In 2007 Leipheimer raced again for the team, now Discovery Channel. Leipheimer stated he asked for blood transfusions from the team but did not get it in the first place. Only until Leimheimer made clear to Bruyneel he did not wanted to carry for its own dope because it was too risky, the team provided blood transfusions for Leipheimer.

Steffen Kjaergaard

Steffen Kjaergaard admitted his doping use during his whole career in 2012, he did not received a suspension because of the time gap between use and confession. Kjaergaard did not provide that many information but he stated he used EPO and became part of the US Postal team doping program. Kjaergaard supplemented he did not knew anything about doping use among his teammates. Although that does not match with the statements of his teammates it cannot be ruled out that Kjaergaard told the truth since he was not a key player in the team.

Floyd Landis

Floyd Landis was another whistleblower who spoke in the media already before the USADA report after his own positive test. He rode for the US Postal Service team from 2002 till 2004. Landis was introduced with doping riding in his first year for US Postal by receiving testosterone from Bruyneel in 2002. In 2003 Landis received EPO for the first time from his teammate Lance Armstrong, who also openly discussed the evolution of EPO testing and thus avoiding positive tests. For Landis it was his own choice to dope, but for him it was a choice between "*cheat, or being cheat"*. Later in his career Landis moved to Phonak where he won the Tour de France, and also found positive. Floyd Landis received public knowledge by accusing the US Postal team for inciting him to doping use, after the extremely long lawsuit period after his own positive test, which he denied for a long time (dopeology.org).

David Zabriskie

Zabriskie rode for the US Postal team from 2001 until 2004. At the beginning of his professional period he already came quickly in contact with doping and "doping doctors" Michele Ferrari and Luis Garcia del Moral, team mates received liquid substances in order of "recoverey". Zabristie refused to take any of the liquid substances because he thought it was doping, and he was against dopers. In 2002 Zabriskie renewed his contract against lower financial conditions opposed to 2001 because his first year was not a success. Zabriskie was very unsecure and started to use the liquid substance,

[85] http://d3epuodzu3wuis.cloudfront.net/Leipheimer%2c+Levi%2c+Affidavit.pdf

from which he was not sure what it contained. From then team manager Bruyneel started to provide Zabriskie with more substances. At the beginning of 2003 when Zabriskie again signed a new contract, this time against better conditions, he received EPO from Bruyneel and Dr. del Moral and testosterone later. After 2004 Zabriskie switched teams but remained a doping abuser (dopeology.org).

Chistian Vande Velde

Like Zabriskie, Vande Velde was also one of the suspensed teammates after the US Postal investigation in 2012, together with Danielson, Leipheimer, Barry and Hincapie. Christian Vande Velde rode for US Postal from 1998 until 2003. In preparation for the 1998 season Vande Velde already ask Armstrong about the doping subject and Armstrong responded; everything will be all right. Later on he saw EPO for the first time in his life at Vaughters place and received cortisone pills himself. Vande Velde was in the first place a little bit hold back from doping, by the team accompaniment, but later also get the liquid recovery substance. Later in 1999 he received actovegin, human Growth Hormones and testosterone. Thereafter in 2001 Vande Velde also took EPO.

Tom Danielson

Danielson only rode for the US Postal team in a later period when the team was known as Discovery Channel, from 2005 until the end of the team in 2007. Equally like many others at the late 90's Tom Danielson received his doping from team manager Bruyneel and team Dr. Michele Ferrari. Danielson describes his usage as a choice presented by the team leaders of Discovery Channel that did not felt like a choice for him. Tom Danielson stated that doping abuse was something which he has to do in order to fulfill his dreams as professional cyclist. He received all products like EPO, testosterone, human Growth hormones and blood transfusions. The doping usage among the team thus did not change very much until 2006 (dopeology.org). Tom Danielson stated he quitted to use doping in 2007 because he has had anxiety attacks in fear for his health. From that point his relationships with Bruyneel and Armstrong were not so good anymore. Danielson describes he was relieved riding without doping and regretted his doping past, nevertheless he tested positive on testosterone in 2015.

George Hincapie

George Hincapie was suspended in 2012 together with some of the already mentioned names above, Hincapies just ended his career in front of that investigation. George Hincapie rode for US Postal for a very long time from 1997 until the end of its existence in 2007. Hincapie use EPO, human Growth Hormones, Testosteron and blood transfusions like most of the important names. He claimed to ride clean after 2006, thus in his last year at the team. Hincapie was already introduced to EPO in 1995 and mentioned EPO was a very open subject en the professional peloton at that time. Hincapie already received EPO from the beginning of his ride for US Postal in 1997 and started blood doping in 2001 when working with Dr. Ferrari until 2006. Hincapie used EPO until 2005 but mentioned that EPO remain pretty regular until the end of the team in 2007. Hincapie slowly quitted doping when Armstrong left the sport in 2005 because he was "tired of the doping" (dopeology.org).

Michael Barry

Michael Barry was equally to 6 others suspended in 2012 and worked and confessed with the USADA report. As rather new amateur Barry became in the professional peloton in 2002, although it took a little time and it was a bit cautious Michael Barry got to know of the doping usage of his teammates. Although he did not knew were the so called ampules that he found were used for. It took not long and Michael Barry also used doping in the first half year of his professional contract. The team doctors mentioned the doping use a recovery substance but everybody knew better. Michael Barry used pretty much everything the team doctors provided him until he quitted radically in 2006 after a doping incident in the Tour of Flanders (dopeology.org).

Matthew White

White rode for the US Postal Service team from 2001 until 2003 and later came back for two year in the Discovery Channel team in 2006 and 2007. Matthew White was already found positive in 1998 before joining the American team. White was not among the respondents of the USADA report but his name is mentioned by some of his colleagues, such as Floyd Landis. According Dopeology White used EPO, human Growth Hormones and Testosterone. His extent of usage is marked as 4, pretty regular, because he was already positive once before. His cultural anchoring is ranked as 3; institutionalization because he declared doping use was pretty regular in his confession statements (dopeology.org).

Following table 4 is a summary of appendix 1. In the table the total count of riders per year is based on the data of procyclingstats.com, doping usage is based on dopeology.org. The typology allocation is distracted from chapter 7.1, a subjective selection based on the input of appendix 1.

Year	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Team	15	20	20	20	20	19	22	28	27	28	0	0	0	0	0	0	0
Use																	
Med			**2**	**1**	**2**	**2**	**1**										
High	**5**	**7**	**6**	**6**	**6**	**6**	**4**	**4**	**3**	**2**							
Cat.																	
1-3	**2**	**2**	**2**	**2**	**5**	**5**	**3**	**2**	**2**	**1**							
4-5	**3**	**5**	**5**	**5**	**3**	**3**	**2**	**2**	**1**	**1**							

Table 4: Count of individual doping patters Appendix 1

Appendix 2: Individual doping usage Rabobank

Michael Boogerd

Michael Boogerd was one of the main team leaders of the Dutch Rabobank team for a long time. Boogerd rode his entire career for the Rabobank team from 1995 until 2007 and was never found positive during his career. After finishing his career Boogerd finally admitted his doping usage when the pressure became too high by allegations of former team mates Leipheimer and Rasmussen and the ongoing Sorgdrager report. Boogerd admitted using EPO, blood transfusion and cortisones. He used doping during this research period from the beginning period in 1998 until his last active year 2007. His extent of usage is at least 4 because he used high tech products and besides preparation also during races such as the Tour de France. Boogerd used doping because everybody used doping that time, besides he also did not wanted to nark others in his fall which could be a sign of cultural anchoring. His cultural anchoring in this case is the highest category socialization, category 5. Backwards with retesting of anti-doping samples in 2013 the AFLD found adverse analytical findings in Boogerd's samples out of the Tour from 1998 (dopeology.org).

Jan Koerts

Koerts was a Dutch cyclist who rode for the Rabobank team only in the first year of this research period in 1998. Koerts used EPO for several teams and thus also when active for Rabobank in 1998. In his admission Koerts declared he tried to mask his EPO usage on advice of Rabobank team doctor Geert Leinders, using masking products indicates a high doping usage of at least extent 3, there is nothing know about other doping products of Jan Koerts. In terms of cultural anchoring Jan Koerts declared that he has to use doping in order to participate. In the typology that is described as category 4 rationalization (dopeology.org)[86].

Erik Dekker

Erik Dekker was besides Boogerd also one of the main team leaders for a long time with the Duch nationality. Different from Boogerd, at Erik Dekker there was found positive tests based on his hematocrit values, and also different from Boogerd Dekker never confessed. Dekker was not officially suspended but only excluded for health reasons for a short time. Dekker his hematocrit value was too high in 1999. Because of his denial there is nothing to say about his extent of usage and his cultural anchoring. Nevertheless experts found his EPO usage proven with today's knowledge[87].

Michael Rasmussen

Rasmussen was a Danish cyclists who rode for the Rabobank team from 2003 until the booming 2007, when the Rabobank management excluded Rasmussen from the Tour in leading position only a few days away before the end of the final day in Paris. Rasmussen his extent of usage was pretty high, ranked as 5 especially because he used many produces; like EPO, dynepo, cortisone, blood transfusions, testosterone, growth Hormones, DHEA and he also missed some anti-doping tests during preparations periods (dopelolog.org). Rasmussen admitted he used 5 blood bags and 100.000 units EPO during the Tour of 2007[88]. His cultural anchoring is also the highest category because he

[86] http://www.cyclingnews.com/news/koerts-confesses/
[87] http://www.cyclingnews.com/news/hematologist-it-was-not-possible-to-clear-erik-dekker-of-epo-use-in-1999/
[88] http://www.volkskrant.nl/vk/nl/11664/Rabobank-stopt-sponsoring/article/detail/3380006/2013/01/20/Rasmussen-reed-Tour-met-100-000-eenheden-epo.dhtml

explicitly lied from 2007 until 2013, and he even already used doping before riding for the Rabobank (dopeology.org).

Rory Sutherland

Rory Sutherland rode for the Rabobank team only one year in 2005, but was also already active for the development team of Rabobank. Sutherland was found positive in that year on Clomifene (dopeology.org). Sutherland denied his doping usage until the present day thus there cannot anything be said about the extent of usage and the cultural anchoring[89].

Thomas Dekker

Thomas Dekker rode for the Rabobank team from 2003 until 2008, he was also already active for the development team of Rabobank before. The doping case of Thomas Dekker was striking in the history of anti-doping because he was the first rider who was found positive based on retrospective blood samples, initiated by the blood passport. After his suspension Dekker completely confessed his doping usage, he used EPO, dynepo and blood transfusions (dopelology.org). Dekker started to use doping in 2006 and for the Rabobank team thus until 2008. His extent of usage is minimal 4 because Dekker used EPO and blood transfusions during the Tour de France. From point of cultural anchoring Dekker is divided into category 5 socialization because Dekker explained doping usage as a way of life with learned lying behavior, learned from teammates and accompaniment (dopeology.org).

Pedro Horrillo

Pedro Horrillo was a Spanish rider who rode for the Rabobank from 2005 until 2009. He was not a team leader but was generally seen as a solid domestique. Pedro Horrillo found positive for Formoterol in 2007. His statement was that he made a mistake with his TUE, Therapeutic Use Exemption. He finally did not had received a suspension.

Levi Leipheimer

Levi Leipheimer strikes as member of the Rabobank team since he was already active for the US Postal Service team for two separated periods in which he used doping. As witness in the USADA report Leimheimer was also one of the direct causes for the start of the Sordgrager report and the bubble that busted surrounding team Rabobank. Leipheimer was active for team Rabobank for three years from 2002 until 2004. Before that period Leipheimer already used EPO and he stated in his affidavit of the USADA that he continued to use doping at Rabobank, with help of team doctor Geer Leinders[90]. Rasmussen even declared that Leipheimer complained that Rabobank only supplied EPO and asked for blood doping. Also related to his doping usage at US Postal Service it is reasonable that the usage extent of Leipheimer is at least 4. In terms of cultural anchoring Leipheimer admitted he received help from the team doctor and also the management was involved. But since he asked the team for more doping, namely blood doping, he could be ranked in category 5 socialization[91].

[89] http://autobus.cyclingnews.com/riders/2006/interviews/?id=rory_sutherland06
[90] http://www.cyclingnews.com/news/report-leipheimer-names-leinders-in-rabobank-doping/
[91] http://velonews.competitor.com/2015/01/news/testimony-sheds-light-leinders-rabobanks-systematic-doping_359008

Marc Lotz

Marc Lotz was active for team Rabobank at the beginning of the research period in 1998 until the end of 2004. Lotz admitted the use of EPO already in 2005 riding at team Quick Step. Marc Lotz started to use doping at Rabobank in 2001, and thus until 2004 at Rabobank[92]. He used EPO and cortisones but refused to take growth hormones because of health reasons. Therefor his extent of usage is ranked as category 3; usage in preparation/ recovery, also because he was just a domestique especially riding in the smaller races. Regarding the cultural anchoring Marc Lotz is ranked in category 4 rationalization. He admitted he has to use doping in order to be competitive as professional. He did not felt for peer pressure and he did received help from a team doctor, but Lotz used doping on his own initiative.

Grischa Niermann

Grischa Niermann was a German cyclist who was a pretty decent climbing domestique who rode the Tour de France for several times employed by the Rabobank and was one of the witnesses in the Sorgdrager report. Niermann was never found positive on doping but admitted after his career he did used EPO during his Rabobank employment. According to his admission Niermann used EPO between the years 2000 and 2003. His extent of usage is more than an incidental action but since he only used EPO for a relative short period over his entire career there is no reason to think he used systematic, therefor Niermann will be categorized in category 3. The reason why Niermann doped did he only mentioned anonymously to the doping authority, but since he quitted his usage and regrets his action it is likely that Niermann used doping on the cultural bases of category 2 or 3. We assume category 3 institutionalization because EPO was the group norm that time (dopeloly.org).

Denis Menchov

Menchov was one of the team leaders of team Rabobank who lead the Tour de France selection for several times. He rode for the Rabobank team from 2005 until 2010. Menchov was already mentioned once in the Ferrari investigation in 2011 and also in the Matschiner case (dopeology.org), but finally Menchov was found positive based on his biological passport in 2013. Menchov never admitted his doping usage, but the UCI confiscated his Tour de France results of 2009 until 2012. However according to Rasmussen Menchov already doped in 2007[93]. The extent of usage of Denis Menchov is hard to determine because he did not provide any admissions. However since he was an high target of the UCI and he doped together with riders such as Boogerd and Rasmussen it is reasonable to assume his extent of usage is at least for. Because his usage is proven and Menchov still denies until the day of today his cultural anchoring will be ranked in category 5, socialization doping as learned behavior (dopeology.org).

Rolf Sorensen

Rolf Sorensen was active for team Rabobank at the beginning of this research period in 1998 until 2000. Sorensen was a Danish rider who was attracted by the Rabobank as one of the experienced team leader for the first professional years of the team. In 2013 Sorensen admitted his usage of EPO and cortisones. He only mentioned his usage in the late 90's without being specific but it is certain he doped during his Rabobank era. His extent of usage is hard to determine because he does not speak too openly, however since EPO was used during the EPO era the extent will at least be 3. Regarding

[92] http://www.l1.nl/sport/203475-marc-lotz-gebruikte-al-doping-bij-raboploeg
[93] http://www.wielerflits.nl/nieuws/24738/rasmussen-volledige-raboselectie-nam-doping-in-tour-2007.html

the cultural anchoring his admission suggests category 4 rationalization because Sorensen states that his usage was pretty normal and necessary in order to be competitive. Although his closed and narrow admission also lefts some leeway for category 5 (dopeology.org).

Steven de Jongh

Steven de Jongh was one of the young talents of the beginning of the Rabobank team in 2000. He rode for the team until 2005. The doping case of Steven de Jongh is especially known from the perspective of TVM era before his Rabobank period, described in the documentary of Andere Tijden Sport (2014). Steven de Jongh admitted his use of EPO in a period until 2000, thus only in his first year as Rabobank rider. Furthermore De Jongh did not provide that much information, possibly because he is still active as sports director is the professional peloton at this present day. Extent of usage is at least 3 since his EPO was not solely for preparations and cultural anchoring is category 3 also institutionalization, with the knowledge of the present day.

Year	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Team	27	24	26	25	25	25	25	27	27	28	30	30	28	28	29	30	31
Use																	
Med	**1**	**2**	**3**	**2**	**2**	**2**	**1**	**1**	**0**	**1**							
High	**1**	**1**	**1**	**1**	**2**	**3**	**3**	**2**	**3**	**4**	**2**	**1**	**1**				
Cat.																	
1-3			**2**	**1**	**1**	**1**											
4-5	**2**	**2**	**2**	**2**	**3**	**4**	**4**	**2**	**3**	**4**	**2**	**1**	**1**				

Table 5: Count of individual doping patters Appendix 2

Appendix 3: Individual doping usage team Telekom

Erik Zabel

Erik Zabel rode for the Telekom team from 1993 until 2005 and was one of the team leaders generally known by the several wins of the green sprint jersey in the Tour de France. Erik Zabel was already found positive on clostebol in 1994 however he was not suspended that time. Then only until 2007 Zabel admitted he used doping during his active career at least once, later in 2013 Zabel admitted his usage until 2003[94]. The Freiburger report suspected Zabel until the end of 2005[95]. His usage can at least be determined as category 5 because Zabel used continuously during the mentioned years. First especially EPO and when EPO became detectable he switched to blood doping. But Zabel also used cortisones and blood doping[96]. The fact that Zabel his usage in 2007 came out and it took only until 2013 for him to tell the 'true story' says that Zabel learned lying and doping usage as societal behavior, cultural anchoring category 5 (dopeology.org).

Bjarne Riis

Bjarne Riis won the Tour de France employing at the Telekom team in 1996 and the Danish rider rode until the end of his career for Telekom to 1999. Bjarne Riis denied his doping usage for a very long time completely in line with the socialization typology of cheating as learned behavior, but also partly initiated by his successive career as team manager at CSC. A possible doping admission could threat Bjarne Riis his following career as team manager, especially since Riis at CSC promoted to be a clean team. Riis has already had suspicious hematocrit values in the 90's[97] however admitting took until the allegations came against him and his teammates at 2007. At his admission Riis declared he used EPO, growth hormones and cortisones. Regarding the hematocrit values of Bjarne Riis his extent of usage seemed to be rather high, at least 4. His cultural anchoring is category 5 socialization because he lied for a very long time even in case of allegations. Riis states he did not knew anything about usage of teammates or competitors thus category 3 and 4 lose weight.

Jan Ullrich

Jan Ullrich was the Telekom team leader for the Tour de France for several years in a crucial period for this research, the Armstrong era. Ullrich rode for Telekom from 1994 until 2002 when Ullrich was fired after testing positive on amphetamines in an out of competition test. Jan Ullrich received only a 6 month ban and returned later to the in between called T-Mobile from 2004 until 2007. In his second period for Telekom Ullrich became into disrepute in 2006 with the Operation Puerto due to Ullrich his collaboration with doping doctor Eufemanio Fuentes. Although Ullrich did not admitted his involvement in the Operation Puerto the particular affair meant the end of Ullrich his career. It took until 2012 when Ullrich made a partial admission and was suspended[98]. In 2013 Ullrich stated he was cooperating with Eufemanio Fuentes and used blood doping. Ullrich did not want to comment on EPO however he was found positive in 2013 in a backwards test over 1998. The extent of usage was at least 4 because EPO and blood doping were used pretty continuously. Cultural anchoring is 5 because Ullrich still want to talk open about his doping usage at the present day (dopeology.org).

[94] http://www.cyclingnews.com/news/zabel-admits-to-doping-from-1996-to-2003/
[95] http://www.cycling4fans.de/index.php?id=5767
[96] http://www.cyclingquotes.com/news/erik_zabel_used_epo_cortisone_and_blood_doping/#RvGedpXTBQIbjl5A.97
[97] http://www.dopeology.org/incidents/Gewiss-haematocrit-levels/
[98] http://www.wielerflits.nl/nieuws/21762/jan-ullrich-steentje-bijgedragen-aan-dopingcultuur.html

Jens Heppner

Jens Heppner was a German cyclist who rode for Telekom from 1992 until 2002 and was found positive on EPO in a backwards test came out in 2013 over 1998. The Freiburger report (2009) suggests that Heppner worked together with team doctors Heinrich and Schmid what suggests that Heppner was part of an extensive doping network. Regarding that extensive network and the detection of EPO his usage was at least category 4, he namely also used during the race at the Tour de France of 1998 in which he won a stage. Cultural anchoring is category 5 because Heppner still did not speak open about his former usage (dopeology.org).

Udo Bolts

Udo Bolts was a German cyclist who rode for Telekom from 1991 until 2002. During his career there were no doping incidents surrounding Udo Bolts until the 2007 Freiburger investigation. After that investigation Bolts admitted his usage of EPO and human growth hormones in 2007. Later on in 2013 there was also found and adverse analytical finding in on of Bolts blood samples out of the Tour de France of 1998, just like some of his teammates. In terms of usage, Bolts definitely used on category 4 because he used during the Tour de France for several years. Regarding the cultural anchoring Bolts falls under category 4 because he 'talked his usage more or less good' with the argument of the high pressure on the cyclists[99]. The pressure for remain professional and ride the Tour de France was the occasion for Bolts to dope, rationalization.

Bert Dietz

Dietz was the first rider to come out for his doping usage in relation to the Freiburger report in 2007. Dietz rode for Telekom from 1993 until 1999 and declared on German television to use EPO clearly under pressure of the Telekom team doctors[100]. This completely fits in the cultural anchoring category institutionalization, category 3 strengthening of a group norm. Dietz was never found positive for any doping test during his career and was 'only a support rider' for his team leaders and even was not part of the Tour de France selections. Bert Dietz declared to start using cortisones first and later switched to EPO. Dietz did not declared anything specific about his extent of usage however he will be ranked in category 4 because he used cortisones and EPO for longer periods and also during racing events (dopeology.org).

Cristian Henn

Henn was a German cyclist who rode for Telekom from 1992 until 1999 because he was found positive on testosterone in 1999. Henn claimed his increased testosterone level was due to a certain fruit extract but anyway Henn was suspended (dopeology.org). After his positive test Henn quitted his active career and became team manager for Gerolsteiner, Milram and Katusha. Later when the Freiburger investigation started Henn was one of the first riders to admit his EPO usage at team Telekom, after Bert Dietz was the first. Henn declared he used EPO from 1995 until the end of his career, all that time as employee of Telekom[101]. Henn did not want to declare anything about his usage and the delivery of his doping products. However his elaborate period of usage indicates that Henn at least falls under category 4 of systematic users during race events. The only thing Henn did

[99] http://www.cyclingnews.com/news/bolts-unavoidable-pressure-to-dope-in-the-late-1990s/
[100] http://www.cyclingnews.com/news/former-telekom-rider-confirms-team-doping-in-1990s/
[101] http://www.cyclingnews.com/news/henn-i-used-epo/

released is the involvement of Jef D'Hont in the doping network, in other words the existence of a team doping network. Henn refused to talk about his reasoning for doping usage and therefor the cultural anchoring category is category 5, socialization. Especially because Henn still do not want to nark his teammates and the network.

Rolf Aldag

Rolf Aldag was a German cyclist who rode for Telekom the greatest time of his career from 1993 until 2005 and after his finishing career he became team manager at the in between called HTC – Highroad from 2009 until 2011. Aldag was an important man for the classics and was domestique is many editions of the Tour de France. Aldag have had no doping incident during his active career according dopeology.org. Just like many Telekom riders Aldag confessed his EPO usage in 2007, Aldag came out for his doping usage in a scheduled press conference together with former teammate Erik Zabel[102]. Aldag stated he used EPO until 1999 but it could be questionable how reliable that specific year was because during his confession in 2007 that suited precisely within the limitation period of the WADA[103]. Later came out that Aldag also used EPO in 2003, 2004 and 2005[104]. After his admission Aldag thus started his sporting director career at the same team. The extent of EPO usage for Aldag was pretty big, at least 4, because he admitted he did have had a hematocrit value of 53 percent which is pretty huge. Regarding cultural anchoring Aldag did not provided a clear statement, however Aldag will be ranked into category 5. In contrast to his teammates Aldag declared there was not a doping network within Telekom and he still released as little information as possible about his usage, his suppliers and other people.

Jorg Jaksche

The German Jorg Jaksche was one of the whistleblowers of the Operation Puerto doping affair once Jaksche was caught for founded blood bags at Doctor Fuentes in 2006. At that time Jaksche was not riding for Telekom anymore but Jaksche was one of the exceptions in cycling who immediately confessed and told his complete story including names and numbers. Several other riders who did still compete for Telekom were also involved in that Operation Puerto in 2006. Jaksche rode for Telekom from in 1999 and 2000. Once Jaksche received his first contract at the Telekom team, Jaksche declared that the former team manager Godefroot who hired him knew everything about Jaksche his doping usage before joining Telekom. According to Jaksche Godefroot did not want to ban out his usage, only the inept substances he used. The extent of usage is category 4. Although Jacksche declared he rode clean in the Tour of 1999, he admitted he doped during several races and besides EPO, he used growth hormones, cortisones and blood doping as well (thus from 2005, not at Telekom). Regarding the cultural anchoring of his usage Jaksche clearly explained he doped because everybody did it, which will be category 3 institutionalization for him.

[102] http://autobus.cyclingnews.com/news.php?id=news/2007/may07/may24news2
[103] http://www.nieuwsblad.be/cnt/001cntou
[104] http://www.cycling4fans.de/index.php?id=5767

Stefan Wesemann

Swish cyclists Stefan Wesemann was one of the foreign riders who rode for Telekom for a very long time, namely from 1993 until 2006. Wesemann is one of the riders who always refused to ever have doped, but several witness statements and also the final conclusions of the Freiburger report explained Wesemann used EPO from 2002 until 2006. Steffen Wesemann never admitted his usage and is never suspended too however several retested blood samples were found positive over this period. The only possible conclusion for Wesemann his denial probably would be that he did not knew he was being drugged, however complied to the statements of several teammates Wesemann used EPO during professional races which is category usage extent 4. Cultural anchoring is category 5 because Wesemann is still in a denial.

Andreas Klier

Andreas Klier rode for Telekom from the year 2001 until 2007. The German classics specialist admitted to use doping in 2013 over the period from 1999 until 2006, thus besides his last year his entire period at Telekom (dopeology.org). Andres Klier he used EPO, growth hormones, cortisones and blood transfusions, basically the most common drugs in the professional peloton. After his confession Klier was suspended in 2013 but his was only banned for 6 months because of his good collaboration with the NADA and USADA[105], Klier was sportive director for the American team Garmin Slipstream that time. The extent of usage is 5 because he used basically all products that were popular in the peloton, even unless he decided to quit his usage after 2006. Regarding cultural anchoring Klier does not provide any information why he chose to dope. However, indirectly Klier reacts to his usage by stating that the peloton in 2013 is way cleaner opposed to the days of his usage. Although he regrets his own decision to dope, that implicitly refers to the institutionalized character of his usage, category 3.

Christian Werner

Christian Werner was a young German and talented cyclists of who is not much information available. Werner rode for the Telekom team between 2003 and 2005 and was caught on EPO on 25 of age and quitted his career[106]. Werner reached the most media attention when Telekom team doctor Schmid was caught with EPO ampules which were meant for Werner. According the Freiburger commission Werner used in all his Telekom years, in that case his usage will be category 4. Regarding the cultural anchoring there is nothing known about Werners' situation.

Bernhard Kohl

Bernhard Kohl was an Austrian talented climber who rode for the Telekom team for two years in 2005 and 2006. Kohl was found positive on CERA in 2008 riding for another German team namely Gerolsteiner at that moment. The doping case of Kohl received many media attention and criticism because the outside world apparently hoped that doping usage would be something of the past. Besides the doping case of Bernhard Kohl was remarkable because Kohl decided to confess immediately and play fully open such as some sort of a whistleblower[107]. Kohl declared he started using doping at 19 years old competing in the junior ranks several substances once in a while. When Kohl started to ride on the highest professional level in 2005 at Telekom, he decided to increase his

[105] http://www.cyclingnews.com/news/usada-suspends-andreas-klier-for-six-months/
[106] http://www.cycling4fans.de/index.php?id=5767
[107] http://www.cyclingnews.com/news/kohl-tells-all-about-doping-1/

usage to a more systematic level. Kohl used EPO, CERA, insulins and growth hormones but especially in training and preparations periods. Kohl only used blood bags during the races. Besides the blood doping as exemption Kohl's his extent of usage is 3, usage in preparations. Kohl declared several professionals have had the same kind of doping patters however he was one of the few that was caught. Kohl thought his usage strategy was undetectable. Occasion for this was probable the biological passport[108]. The doping confession of Kohl seems pretty reliable because he declared to say goodbye to the cycling world. Apparently doping usage switched to dope in preparation periods and blood doping became very common. According to Kohl the extent of usage decreased pretty much related to previous years, however also way harder detectable. Cultural anchoring of his usage lies between category 4 and 5. Kohl started to use because otherwise he never could have become professional however finally doping usage became a way of life and a lie in which he completely believed in, thus category 5 (dopeology.org).

Alberto Elli

Italian cyclist Alberto Elli rode for the Telekom team from 1999 until 2001. Elli did never confessed his involvement in any doping case however in 2002 he was condemned for the possession and usage of doping substances in the Giro d'Italia of 2001 regarding the Blitz raids investigation (dopeology.org). The Blitz raids investigation was a doping research regarding found substances in an Italian rider's hotel during the Giro d'Italia, several riders and teams were involved amongst other Telekom riders Ullrich and Sgambelluri. Out of the great investigation with initially 84 involved names Alberto Elli was finally one of the 6 condemned riders[109]. Elli was fined for usage of Cortisones, human growth hormones and insulins on Italian soil and received a six month conditional imprisonment. There is only found any proof for the year 2001 regarding Elli. Extent of usage is at least incidental which is category 2 and cultural anchoring is category 5 because Elli never spoke open about his conviction.

Patrik Sinkewitz

German climber Patrik Sinkwitz rode for the in between called T-Mobile only in 2006 and 2007. In that second year Sinkewitz was fired because he tested positive on Testosterone in an out of competition test in preparation of the Tour de France. The positive doping test of Patrik Sinkewitz was occasion for the German tv channels ARD and ZDF to quit the live broadcast of the Tour de France once the news came out[110]. Sinkewitz was caught on cortisones, testosterones and there were also found instruction materials for EPO and blood transfusions. Sinkewitz stated that the team starter their anti-doping policy within the team in early 2007, however in practice that has been a policy of not getting caught instead of not using. Sinkewitz remained to use doping and felled like he did not anything wrong[111]. Extent of usage is at least 3, Sinkewitz used many products but only small amount of which he thought it was undetectable. His cultural anchoring category is category 4

[108] http://www.cyclingnews.com/news/kohl-tells-all-about-doping-1/

[109] http://www.dopingautoriteit.nl/nieuws/anp/item/229/Voorwaardelijke+celstraffen+voor+Frigo,+Elli+en+Di+Grande

[110] http://www.cyclingnews.com/news/sinkewitz-positive-german-public-channels-stop-tour-coverage-immediately/

[111] http://www.spiegel.de/international/europe/pro-cyclist-patrik-sinkewitz-revisits-doping-scandal-your-main-concern-is-not-to-get-caught-a-515459-2.html

rationalization because it was normal for him to dope. Later after Sinkewitz made his comeback after his suspension Sinkewitz was caught again on forbidden substances (dopeology.org).

Andreas Kloden

German general classification rider Andreas Kloden was a very important rider for the German Telekom team. Most of his successful years Kloden rode for the Telekom team, from 1998 until 2006, Kloden was mostly the main lieutenant of Jan Ullrich but also was team leader himself for a few times in the Tour de France. Kloden finished twice on the podium of the Tour de France in 2004 and 2006. In that second time when Kloden reached the general classification podium in the Tour 2006 Kloden underwent blood transfusions after finishing the first stage in Strasbourg together with team mates Kessler and Sinkewitz[112]. Apparently Telekom team doctor Schmid performed the blood transfusion. Later by the Freiburger report that team doctor was found guilty for team organized doping between 1995 and 2006. However the only proven event surrounding Kloden was the mentioned one. Later in the criminal proceedings Kloden bought of his further prosecution. Since there is not that much information surrounding Kloden, extent of usage is at least 3, usage in preparation. Cultural anchoring at least 2 supporting because doctor Schmid facilitated it, however it is reasonable to think his cultural anchoring reason would be higher.

Matthias Kessler

Matthias Kessler was one of the Telekom riders in the Blitz raids case were finally only Alberto Elli was condemned for. Kessler was during his year's one of the main pawns of the Telekom team in the spring classics where he received many podium finishes, highlight of his career was the Tour de France stage win in 2006. Kessler started to ride for the Telekom team in 2000 and maintained until the year of his greatest success in 2006. Kessler moved to the Astana team in 2007 and was immediately found positive in an in competition test in the Fleche Wallonne on testosterone. Regarding his Telekom period there was only found evidence for doping usage in 2006. The Freiburger report found out that Kessler together with Kloden and Sinkewitz received blood transfusion at the evening of the first stage in the Tour de France of 2006, in Strasbourg. Possible there were more riders involved[113]. The Freiburger report also concluded that there was a widespread doping network in the Telekom team from 2004 until 2006 when Stapleton took over the team lead[114] however there is only found evidence for doping usage of Kessler in 2006. Extent of usage is at least category 3, since it was not a single action but there is also nothing known about the previous years. Cultural anchoring is category 5 since Kessler never spoke open about his usage.

[112] http://autobus.cyclingnews.com/news.php?id=news/2009/may09/may13news3
[113] http://autobus.cyclingnews.com/news.php?id=news/2009/apr09/apr26news
[114] http://www.dopeology.org/incidents/Freiburg-Report-T-Mobile/

Kevin Livingston

This is the second time that Kevin Livingston pups up in this report since he was already involved in the US Postal service case. Livingston never admitted his usage publically however there was found a positive test in 2013 with retesting over samples from 1998 when he rode for Cofidis. Livingston rode for the Telekom team in 2001 and 2002, a switch that was not been appreciated by his former team leader Armstrong[115]. According to German rider Jorg Jaksche Livingston was attracted by Telekom for his knowledge about the doping program in US Postal. Livingston never admitted his involvement but also did not deny. Thus regarding Jaksche his statement it seems that Livingston was involved in the Telekom doping network. Extent is at least 3 because it is a systematic network. Cultural anchoring is socialization just like in his US Postal time because he still does not speak about his past.

Lorenzo Bernucci

Italian Lorenzo Bernucci rode for the in between called T-Mobile team in 2006 and 2007. In the year 2007 Bernucci was found positive for sibutramine which Bernucci took for 4 years but he declared he did not knew is became on the forbidden substance list in 2007. There is nothing know about further doping usage. Extent of usage is 1 accidental. Cultural anchoring is also 1 conservation because he did not took in mind the new developments.

Serhiy Honchar

Time trialing specialist Serhiy Honchar from Ukrainian origin is a remarkable case in the Telekom chapter. The Ukrainian was riding for Telekom in 2006 and 2007 and was never found positive by the UCI, although he have had some doping incidents before his Telekom period, but Honchar was found positive and suspended by the Telekom team itself[116]. T-Mobile never declared what deviation was found in Honchar his blood value. After this incident Honchar never ride on the highest professional level. In 2007 Telekom started their anti-doping campaign and although Jaksche declared it was more meant to avoid detection instead of usage they finally fired Honchar because he did not coped with the team values. However this incident also could mean that Honchar for instance doped too much or used too much detectable substances, this is at least a first step in the shared responsibilities in the battle against doping of teams.

Oscar Sevilla

Spanish climber Oscar Sevilla was just like Jan Ullrich involved in the Operation Puerto in 2006. Operation Puerto was known about the blood transfusion from Doctor Eufemanio Fuentes . Sevilla was not found positive but his collaboration with Doctor Fuentes which he denied was finally proven. Sevilla received a 6 month ban and was fired by T-Mobile. There is nothing further know about his usage except the blood transfusion who were prepared for the Tour of 2006. Extent is at least 3 because it could be only for preparation. Cultural anchoring is 5 because Sevilla never told his story of doping usage. Later in his caraar Sevilla was found positive again.

[115] http://www.active.com/articles/week-in-cycling-armstrong-blasts-livingston-french-ullrich-loses-secret-plans

[116] http://www.cyclingnews.com/news/t-mobile-releases-honchar/

Alex Rasmussen

In 2011, way apart from the former doping cases Danish cyclist Alex Rasmussen missed 3 doping tests in a period of 18 months. There is nothing known about further doping usage but Rasmussen was immediately fired by the Telekom team which in between was sponsored by HTC – Columbia. Extent of usage is 1, cultural anchoring is unknown[117].

Year	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Team	18	20	23	27	25	25	27	27	29	29	29	25	28	27	0	0	0
Use																	
Med				**2**	**1**			**1**	**5**	**2**				**1**			
High	**8**	**9**	**5**	**5**	**6**	**5**	**6**	**6**	**3**								
Cat.																	
1-3	**1**	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**1**							
4-5	**7**	**7**	**4**	**6**	**6**	**3**	**4**	**5**	**6**	**1**							

Table 6: Count of individual doping patters Appendix 3

[117] http://www.cyclingnews.com/news/report-alex-rasmussen-given-18-month-ban-for-whereabouts-violations/

Appendix 4: Individual doping usage team Cofidis

Francesco Casagrande

Francesco Casagrande was an Italian cyclist who rode for team Cofidis for only one year in 1998. Unfortunately Casagrande was found positive on testosterones that year during the Giro del Trentino, Casagrande received only a 9 month suspension[118]. Later in 2004 Casagrande caused another doping incident because his haematocrit value reached above the 50 percent, mostly indicator for EPO usage. Since this second incident Casagrande his usage is at least category 3, systematic in preparation. Cultural anchoring is definitely category 5 because Casagrande never spoken about these two incidents in public (dopeology.org).

Roland Meier

Swish Roland Meier rode for Cofidis from 1998 until 2000. Meier was found positive on EPO backwards based on a retest of the Tour de France in 1998, Meier his positive test came out in 2013. Meier never declared anything about his usage. In 2001 he moved to team Coast where he was found positive on EPO which did came out immediately. That second positive test meant the end of the professional cycling career of Meier. Extent of usage is at least 3, since he tested positive twice. Cultural anchoring is category 5 because he never spoke open about it.

Bobby Julich

Bobby Julich experienced the highlight of his career 1998 when Julich finished third on the podium of the general classification of the Tour de France however he turned out to be doped that time. Julich rode for Cofidis from 1997 until 1999. Only until 2012 Julich confessed his doping usage, in a statement Julich declared he used EPO at his Cofidis period[119]. Occasion for Julich his confession was a request of his team SKY where Julich was trainer to be completely honest. Julich declare to quit doping in 1998 when he became feared after the Festina affair. Julich later rode for Telekom but he did not explicitly speak about that period. Possibly Julich did not tell the entire truth because of legal barring terms. Extent of usage is 4 because Julich back in 1998 used EPO during the Tour de France. Cultural anchoring is category 3 institutionalization. Julich used when doping usage was common but since the greatest 90's affair he declared to quit the dope which explains he did not dope because of his personal desires.

Kevin Livingston

The most recurring cyclist in this research is Kevin Livingston since he was already treated at the US Postal Service case and Telekom as well. Sadly enough for this research Livingston is not one of the cyclists who discussed their doping usage in public. Livingston rode for Cofidis in 1997 and 1998 was tested positive in that second year during the Tour de France in stage 13, which came out in 2013 as dopeology.org explains[120]. Later Livingston moved to US Postal as he rode previously with Lance Armstrong, thereafter he moved to Telekom in order to enhance their doping policy, as Jaksche declared. Extent of usage is at least 3 because it is systematic, cultural anchoring is category 5 because Livingston does not speak about his doping past.

[118] http://www.dopeology.org/incidents/Casagrande-appeal/
[119] http://www.cyclingnews.com/news/exclusive-bobby-julich-doping-confession/
[120] http://www.dopeology.org/incidents/Livingston-positive-1/

Laurent Desbiens

Laurant Desbiens was a French cyclist who rode for Cofidis from 1997 until 2000 and was already tested positive on nandrolone in 1996 before joining Cofidis. Laurent Desbiens was further never linked to doping incidents during his career according to dopeology.org. However a retest of 1998 blood samples out of the Tour de France in 2004 turned out to be positive on EPO. Desbiens sample came from stage 9 when Desbiens wore the yellow jersey. Desbiens never spoke in public about the test and there is no information available about possible suspensions. Extent of usage is at least category 3 since it was the second positive test of Desbiens. Cultural anchoring is category 5 since Desbiens never spoke about the incedent.

Philippe Gaumont

French Philippe Gaumont was one of the more important riders of the Cofidis team who was very close to the sensational Frank Vandenbroucke; Gaumont rode for Cofidis from 1997 until 2004. Philippe Gaumont have and a drug addiction and died very young in 2013 at 40 years old. Gaumont already tested positive on nandrolone in 1996 before joining the Cofidis team. Later in 1998 he was found positive again on nandrolone, riding for Cofidis, however he was not suspended with the UCI rules that time. Then Gaumont was arrested twice by the French policy for doping possession in 1999 and 2004. After the allegations in 2004 Gaumont ended his professional career and told his story in a book that came out in 2005[121]. Also he linked some of his former Cofidis teammates[122]. Gaumont stated that almost all Cofidis riders doped, French and foreign. Gaumont declared he swallowed almost everything in order to improve and he received everything from the team doctors which he asked. His extent of usage is definitely 5 because he used much kind of products without paying attention to the medical risks too much. According to dopeology.org Gaumont used EPO, growth hormones, testosterone, nandrolone, cortisones, sleeping pills and also heroin and cocaine. Cultural anchoring of Gaumont his usage was also category 5. Gaumont used that much that it became a way of life[123].

Frank Vandenbroucke

Frank Vandenbroucke was one of the most talented cyclists in the professional peloton and although he did not get the most out of his career, the Belgium is seen of one of the best cyclists in recent history by his countrymen. Unfortunately just like Gaumont, Vandenbroucke had to deal with several addictions and died way too young. Frank Vandenbroucke did not survive pulmonary embolism in 2009 at an age of 34. Frank Vandenbroecke rode for Cofidis in 1999 and 2000 and was already a star arriving at the team on an age of only 24. Vandenbroucke came to the team because he was a friend of French rider Philippe Gaumont, Nico Mattan joined them as another friend. 1999 was a very good year for Vandenbroucke, he won amongst others the Omloop het Volk and Luik Bastenaken Luik even though his life was already dominated by several addictions. Vandenbroucke admitted in 1999 his doping usage but claimed not knowing it and finally he received a ban for only 6 months. Later in 1999 Vandenbroucke was arrested together with teammate Gaumont and personal doctor Sainz, however they were not condemned. Mattan and Maes (2011) clearly described the career of Vandenbroucke from the perspective of a teammate and a friend. Mattan and Maes (2011) explained that Vandenbroucke was not a man who lived for his sport, drank alcohol, cocaine and was addicted

[121] http://www.cyclingnews.com/news/gaumont-tips-the-bucket/
[122] http://www.dopingautoriteit.nl/nieuws/anp/item/69/Gaumont%3A+Gevangene+van+dope
[123] http://www.cyclingnews.com/features/philippe-gaumont-the-life-and-times-of-an-enfant-terrible/

to sleeping pills. According to dopeology.org Vandenbroucke used EPO, amphetamines, clenbuterol, morphine and growth hormones. Extent of usage is without any doubt category 5. Cultural anchoring category of Vandenbroucke is also category 5 socialization. Vandenbroucke thought he needed the dope thus is can be seen as rationalization, however usage became such a huge part of his life that category 5 is unavoidable.

Nico Mattan

Nico Mattan moved to the Cofidis team as closest friend and teammate of Frank Vandenbroucke. During his career Mattan was never found positive of involved in doping incidents according dopeology.org, however after his career he confessed his usage. Mattan rode for the Cofidis team from 1999 until 2003. In 2007 Mattan admitted his usage of EPO and cortisones once questioned about the Museeuw doping case. Mattan declared the use of EPO and other products was pretty common that time including his self[124]. Also in his book Mattan and Maes (2011) about teammate Vandenbroucke Mattan refers to his usage. Mattan worked closely together with Doctor Bernard Sainz, literally Mattan said; "*Sainz assisted me for 10 years and I never tested positive on doping".* According Mattan Sainz was not a doping doctor however Sainz helped Vandenbroucke and Mattan medically. Mattan also refers to the doping usage of Vandenbroucke and mentioned he is an advocate of legalizing EPO (Mattan and Maes, 2011). Extent of usage is at least 3. Cultural anchoring is category 3 institutionalization because he stated doping usage was pretty common regarding the Museeuw case.

Jo Planckaert

Cyclist Jo Planckaert was one rider out of the famous Belgium cycling family. Planckaert rode for the Cofidis team from 2000 until 2003 traditionally as one of the few Belgiums who each year rides for the team. Planckaer was a strong classics rider who finished podiums several times. In 2003 Plackaert was caught on human growth hormones and NESP when Belgium policy researched a veterinarian who traded suspicious[125]. Planckaert received a fine and a conditional imprisonment in 2008. Plackaert never spoke about his usage however there is enough evidence for him to use EPO, growth hormones and NESP. Also former teammate Goumont linked Planckaert for his involvement in the veterinarian case[126]. Extent of usage is at least 4 because of the very diverse use of products. Cultural anchoring is category 5 because Planckaert never spoke open about his usage just like many others in that category.

Massimiliano Lelli

Massimiliano Lelli was involved in the 2004 Cofidis case and was mentioned by Gaumont as last rider who participated. Italian Lelli rode for the Cofidis team from 1998 until 2004. At the time of the allegations Lelli was already 36 and directly ended his career. Lelli doped together with David Millar, soigneur Madejak and team manager Francoi Migraine which is explained in Millar his book in which is Lelli called l'équipier[127]. Lelli used EPO but there is not much information about his extent of

[124] http://autobus.cyclingnews.com/news.php?id=news/2007/mar07/mar11news
[125] http://www.nu.nl/sport/1883534/museeuw-en-planckaert-veroordeeld-voor-doping.html
[126] http://www.dopingautoriteit.nl/nieuws/anp/item/69/Gaumont%3A+Gevangene+van+dope
[127] http://www.podiumcafe.com/2011/6/17/2228568/Racing-Through-The-Dark

usage[128]. Because he used for more years at Cofidis he will at least be category 3, cultural anchoring is category 5 because Lelli did not speak about his doping usage.

Marek Rutkiewicz

Polish Marek Rutkiewicz is already mentioned in the Cofidis chapter 7.4. Rutkiewicz was the first caught (former) Cofidis rider who was caught in the 2004 incident on doping possession and he was linked to Cofidis soigneur Bogdan Madejak which immediately indicated to a doping network. Rutkiewicz came from his home country Poland back in France in January 2004 when he was arrested for the possession of doping substance by the French police, in accordance with a research that already took longer. Rutkiewicz rode for Cofidis from 2001 until 2003. According to dopeology.org Rutkiewicz used EPO, human growth hormones, testosterones and cortisones. Rutkiewicz was finally suspended for only 6 months[129], later in his career Rutkiewicz was caught again. Extent of usage is at least 4 because he used several products and also was punished twice. Cultural anchoring category is 5 because also Rutkiewicz did not spoke in public.

Mederic Clain

Mederic Clain rode for Cofidis from 2001 until 2004. Clain was involved in the 2004 doping case of the Cofidis team. Together with Cedric Vasseur Clain was called as respectively seventh and eight riders in the Cofidis case. Finally Vasseur was cleared and Mederic Clain gets away with only a three months ban[130]. After the incident Clain ended his career and he never spoke about it again. Extent of usage is unknown and thus the cultural anchoring as well. However it seems that Clain have had a comparable doping patter with riders such as Sassone, Rutkiewicz and Majewski[131].

Robert Sassone

French Robert Sassone was involved in the 2004 doping case of Cofidis, he rode for the team from the year 2000 until 2003. According to dopeology.org Sassone used EPO, human growth hormones, testosterones, amphetamines and steroids. Sassone was arrested in the 2004 criminal research by the French policy but was later on cleared[132]. Later in 2004 Sassone decided to talk and he admitted his usage[133]. Sassone declared he made a mistake and claimed that he made his own decision without help of any others. Sassone did not mentioned what doping he used however dopeology.org distracted that from the criminal proceedings. The extent of usage is categorized as category 4, systematic usage. Cultural anchoring is category 4 because het stated that usage was his personal choice made by a young ambitious cyclist. However category 5 must not be ruled out because he might not speak fully free in fear of harming others.

[128] http://www.cyclingnews.com/news/millar-and-lelli-acquitted/
[129] http://www.dhnet.be/archive/cofidis-le-jugement-51b7f70fe4b0de6db99b80c7
[130] http://www.dopeology.org/incidents/Vasseur-and-Clain-indictments/
[131] http://www.dhnet.be/archive/cofidis-le-jugement-51b7f70fe4b0de6db99b80c7
[132] http://www.dopeology.org/incidents/Sassone-arrest/
[133] http://autobus.cyclingnews.com/news.php?id=news/2004/mar04/mar25news2

Tristan Valentin

Tristan Valentin rode for Cofidis from 2006 until 2013 and was found positive for heptaminol in 2006. French Valentin was only disqualified for 6 months because his defense stated the doctor made a mistake in providing information about the substance. Extent of usage thus is category 1 accidental. The cultural anchoring category does not exist in this case, although never can be excluded that the 'poor communication' with the doctor was part of the doping plan.

Cristian Moreni

Italian Moreni was in 2007 one of the caught doping cyclists in the Tour de France. Moreni tested positive on testosterone which caused many commotion because Moreni was already the second positive case of that 2007 Tour de France. In 2007 the general attitude towards doping was turned against the dopers because the 2006 Tour was already ruined by the Operation Puerto. Then once the Tour of 2007 was only a few days old Telekom rider Sinkewitz turned out to be positive, he was already tested leading up to the Tour. Then later in the Tour de France former Telekom rider Vinoukourov was found positive who rode for Astana. As a reaction the Astana team decided to withdraw from the Tour as a complete team. Then later also Moreni was tested positive which leaved the Cofidis team less room to do anything differently from Astana and also Cofidis abandoned the stage race[134]. Thereafter the 2007 Tour had to deal with another slap in the face when race leader Rasmussen was withdrawn from the Tour due to doping allegations. Moreni rode for Cofidis in 2006 and 2007 and his failed doping test meant for Moreni the end of his career. Moreni accepted his wrongdoing and did not ask for a b sample, which is equally to admitting his usage. There is nothing specific known about Moreni's extent of usage thus it will be at least category 2 incidental. Cultural anchoring will be category 1 conservation of the old doping system, because the world was slowly against the doping usage and the cyclists apparently not yet. For Moreni there is only specific information about 2007.

Chris Peers

Belgium Chris Peers was involved in the Belgium veterinarian together with teammate Jo Planckaert and Johan Museeuw. The Belgiums were accused for dealing and using EPO, human growth hormones and the less known substance NESP. Just like veterinarian Landuyt the riders were all convicted for their wrongdoing. Chris Peers rode for Cofidis from 2000 until 2003 and was punished in 2004 with a fine and a two year ban which finally meant for Peers the end of his career. Extent of usage for Peers was 4, Peers used strong and even experimental substances however way less in comparison to Planckaert and Museeuw, according his own statement[135]. Cultural anchoring category is 3 institutionalization, Peers explained he needed to dope in order to be professional. Chris Peers does still feel a sense of injustice, he doped but according to him Peers did not dope as much as many others[136].

[134] http://espn.go.com/figure-skating/tdf2007/news/story?id=2948264
[135] http://www.trouw.nl/tr/nl/4324/Nieuws/article/detail/1732663/2005/04/02/Peers-kleine-renner-die-moest-hangen.dhtml
[136] http://www.nieuwsblad.be/cnt/191odq9a

David Millar

David Millar was one of the world best time trialing specialists in his doping days when he was caught in 2004 on EPO usage. Leading up to the Tour de France of 2004 Millar was banned from participation to the race. During 48 hours detention Millar admitted to dope twice and used EPO in 2001 and 2003[137]. Millar received a two year ban and after that Millar came back as a strong anti-doping fighter as the great example of what could go wrong. Millar rode for Cofidis from 1997 until 2004 and after his suspension Millar came back for Saunier Duval and later team Garmin. David Millar wrote his complete anti-doping story in his book *Racing Through the Dark*[138]. Extent of usage for David Millar was category 2 because he only doped twice, although it was during the Tour de France. Cultural Anchoring is category 3 institutionalization. Millar felt obligated to use despite he regrets it.

Year	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Team	23	23	28	28	29	29	28	32	33	33	33	25	26	28	27	28	28
Use																	
Med	**5**	**2**	**2**	**3**	**2**	**3**	**1**		**1**	**1**							
High	**2**	**2**	**5**	**5**	**5**	**5**	**1**										
Cat.																	
1-3	**1**	**1**	**2**	**3**	**2**	**2**				**1**							
4-5	**6**	**3**	**5**	**5**	**5**	**5**	**2**										

Table 7: Count of individual doping patters Appendix 4

[137] http://www.dopeology.org/incidents/Millar-admission/
[138] http://www.podiumcafe.com/2011/6/17/2228568/Racing-Through-The-Dark

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