

OBEGEF – Observatório de Economia e Gestão de Fraude

# WORKING PAPERS

#22

Is white-collar crime a  
form of entrepreneurship?



José Neves Cruz



OBEGEF  
Observatório de Economia  
e Gestão de Fraude

>> **FICHA TÉCNICA****IS WHITE-COLLAR CRIME A FORM OF ENTREPRENEURSHIP?**

WORKING PAPERS Nº 22 / 2013

OBEGEF – Observatório de Economia e Gestão de Fraude

Autores: José Neves Cruz<sup>1</sup>

Editor: Edições Húmus

1ª Edição: Fevereiro de 2013

ISBN: 978-989-8549-69-3

Localização web: <http://www.gestaodefraude.eu>

Preço: gratuito na edição electrónica, acesso por download.

Solicitação ao leitor: Transmita-nos a sua opinião sobre este trabalho.

Paper in the International Conference *Interdisciplinary Insights on Fraud and Corruption*

©: É permitida a cópia de partes deste documento, sem qualquer modificação, para utilização individual. A reprodução de partes do seu conteúdo é permitida exclusivamente em documentos científicos, com indicação expressa da fonte.

Não é permitida qualquer utilização comercial. Não é permitida a sua disponibilização através de rede electrónica ou qualquer forma de partilha electrónica.

Em caso de dúvida ou pedido de autorização, contactar directamente o OBEGEF ([obegef@fep.up.pt](mailto:obegef@fep.up.pt)).

©: Permission to copy parts of this document, without modification, for individual use. The reproduction of parts of the text only is permitted in scientific papers, with bibliographic information of the source.

No commercial use is allowed. Not allowed put it in any network or in any form of electronic sharing.

In case of doubt or request authorization, contact directly the OBEGEF ([obegef@fep.up.pt](mailto:obegef@fep.up.pt)).

---

<sup>1</sup> CIJE – Centre for Legal and Economic Research and School of Criminology of the Faculty of Law of the University of Porto. E-mail: [josec@direito.up.pt](mailto:josec@direito.up.pt)

## &gt;&gt; ÍNDICE

<b>Acknowledgements</b>	5
<b>1. Introduction</b>	6
<b>2. Problems in the study of white-collar crime</b>	9
<b>3. Baumol's hypothesis and evidence; entrepreneurship and wcc</b>	13
3.1. Baumol's hypothesis	13
3.2. Some empirical studies on the connection between entrepreneurship and white-collar crime	16
<b>4. Becoming entrepreneurs and becoming white-collar offenders</b>	18
4.1. Models based on stable factors for entrepreneurship	18
4.1.1 Personality traits as mediators of generic influence on entrepreneur behaviour	18
4.1.2 Models of the influence of personality traits on entrepreneurship	19
4.2 Personality traits and wcc	24
<b>5. Model of intentions: entrepreneurship and wcc</b>	26
5.1 Theory of Planned Behaviour and entrepreneurial intentions	27
5.2 Theory of Planned Behaviour and wcc intentions	30
<b>6. Conclusions</b>	35
<b>References</b>	37

## &gt;&gt; RESUMO

De acordo com Baumol (1990), o empreendedorismo nem sempre aumenta o valor social, mas, dependendo de fatores contextuais (“regras do jogo”), o talento empresarial pode ser direcionado para atividades improdutivas e destrutivas, designadamente o crime de colarinho branco e o crime organizado. Existe alguma contraprova empírica corroborando esta hipótese. Com base nela, propomos um modelo integrado para o estudo empírico dos fatores individuais do crime do colarinho branco, baseado na combinação de duas abordagens concorrentes que têm sido amplamente utilizadas para identificar os fatores individuais do empreendedorismo: o modelo de traços de personalidade; a teoria do comportamento planeado (TCP). Advogamos que a aplicação dos dois modelos, usando a mesma amostra de indivíduos, produzirá resultados similares para ambos os tipos de intenções e uma forte associação entre intenções empreendedoras e intenções de cometimento do crime de colarinho branco, ou seja, esperamos encontrar fortes similaridades, ao nível da personalidade e ao nível das intenções, entre os empreendedores e os ofensores de colarinho branco.

**Palavras-chave:** Crime de colarinho branco; empreendedorismo<, traços da personalidade; intenções; teoria do comportamento planeado.

## &gt;&gt; ABSTRACT

*According to Baumol (1990), entrepreneurship does not always create social value but, depending on contextual factors (rules of the game), entrepreneurial talent may be directed towards unproductive and destructive activities, including white-collar crime. Following Baumol's hypothesis we propose a theoretical framework for the integration of the empirical study of entrepreneurship and white-collar crime designed with intelligence and innovation, based on the combination of two competing approaches hitherto used separately for both issues: the personality traits model and the theory of planned behaviour.*

**Keywords:** white-collar crime; entrepreneurship; personality traits; intentions; theory of planned behaviour.

**Acknowledgements**

I am grateful to Daniela and John Wilks and to Pedro Sousa for their helpful comments.

## >> 1. INTRODUCTION

According to Baumol (1990) white-collar crime (WCC) can be viewed as destructive entrepreneurship. Innovation, recognising opportunities and risk-taking are features of entrepreneurship, but also of many types of WCC. Criminology has to date paid scant attention to this parallelism, because WCC so far lacks precise definition.

The definition of white-collar crime (WCC) is not uniform and diverges across different authors. Edwin Sutherland, in 1939, in a speech to the American Sociological Society, brought WCC to the attention of criminologists. Prior to this, criminals had been identified as low-income and low-status. However, as Sutherland pointed out: "(...) crime is in fact not closely correlated with poverty or with the psychopathic and sociopathic conditions associated with poverty, and that an adequate explanation of criminal behaviour must proceed along quite different lines." (Sutherland, 1940: 2).

Sutherland challenged the results obtained till then, which in his opinion were skewed because: "(...) they have not included vast areas of criminal behaviour of persons not in the lower class. One of the neglected areas is the criminal behaviour of business and professional men (...)" (Sutherland, 1940: 2)

He went on to define WCC as "a violation of the criminal law by a person of the upper socioeconomic class in the course of his occupational activities" (Sutherland, 1941: 112, cit. in Geis, 1968: 376)<sup>1</sup>. This definition emphasised the often high socio-economic status and conventional respectability of the WC criminal and also linked such crime with professional occupation: "(...) white-collar criminal should be differentiated, on the one hand, from the person of lower socio-economic status who violates the regular penal code or the special trade regulations which apply to him; and, on the other hand, from the person of high socio-economic status who violates the regular penal code in ways not connected with his occupation (...)" (Sutherland, 1949: 112 cit. in Benson and Simpson, 2009: 6)<sup>2</sup>.

However this definition left grey areas that initiated lengthy discussion in the literature of criminology that is still ongoing. The general rubric of WCC includes many types of offence: money laundering, embezzlement, fores-

---

<sup>1</sup> Apud Geis (1968): Sutherland, E., 1941, Crime and Business, *Annals of the American Academy of Political and Social Science*, 217, 112

<sup>2</sup> Apud Benson and Simpson, 2009): Sutherland, E., 1949, The White Collar Criminal, in Vernon C. Branham and Samuel B. Kutash, eds., "Encyclopedia of Criminology", New York, Philosophical Library, 511.

talling, forgery, bribery, corruption, various violations of tax laws, antitrust regulations, credit and securities regulations, crimes against the environment, crimes against workers, offences against consumers, offences against shareholders, insider trading, financial crimes, and many others. Even giving a name to this category of offence has not been uncontroversial.<sup>1</sup>

It is recognised that not only people of high status commit these types of offence. On the one side there are those crimes that are committed in the context of an organisation or corporation, and on the other, those committed in the context of individual profession life. Also, according to Sutherland, the term WCC covers a wider range of criminal acts than those labelled as such by the law. This is because high socio-economic individuals belong to the class that often defines what is seen as crime, and so tends to disguise the criminality of the acts committed. According to Sutherland (1940): "The crimes of the upper class either result in no official action at all, or result in suits for damages in civil courts, (...) Thus the white collar criminals (...) are not regarded as criminals by themselves, the general public, or the criminologists." (in Geis 1968: 47) All these topics have been much discussed and several definitions have emerged based on the different viewpoints<sup>2</sup>.

In 1996 a group of criminologists who met specifically to establish the definition of WCC came up with the following formulation: "White collar crimes are illegal and unethical acts that violate fiduciary responsibility of public trust committed by an individual or organisation, usually during the course of legitimate occupational activity, by persons of high or respectable social status for personal or organisational gain." (Helmkamp et al., 1996: 351 cit in Friedrichs, 2010: 6)<sup>3</sup>

Some elements of this definition should be highlighted: the link between WCC and professional status; the violation or abuse of trust; the goal of personal or organisational gain; the unethical as well as illegal character of the offences; their association with otherwise legitimate and respectable professions or organisations. This last refers indirectly to the presence of specific knowledge and professional abilities normally associated with high levels of

---

<sup>1</sup> See in Friedrichs (2010: 5) the diversity of names that appeared in literature.

<sup>2</sup> Edelhertz (1970), Shapiro (1990), Bacher (2005) and Coleman (2006): in the definition of WCC acts are important, not the status of the offenders; on the other side, Sutherland and Brightman (2009) disagree. Clinard and Quinney (1967) propose the profession as an alternative to the social status, and from his approach appears the classification of WCC between occupational crime and corporate crime. Tappan (1947) and Bacher (2005) argue that only offences that violate penal law should be included in WCC; Hagan (1994), Ponsaers and Ruggiero (2002) and Yeager (2010) refute this position.

<sup>3</sup> Apud Friedrichs (2010): Helmkamp, J., Ball, J., and Townsend, K. (Eds.) *Definitional Dilemma: Can and Should There Be a Universal Definition of White Collar Crime?* Morgantown, WV: National White Collar Crime Center.

education and intelligence. Another characteristic of WCC is that it involves opportunity and risk-taking (Benson and Simpson, 2009). The goal of the offender is not to conceal himself, like a conventional criminal, but to conceal the crime, which may demand some innovation and complexity so as to render it undetectable by existing control systems. Indeed, most well-known cases of WCC are intelligently prepared and use complex knowledge, innovating in relation to what was done before. It is on this type of economic and financial offence that we focus in this study.

We begin by showing how established theories of criminology have difficulty in explaining WCC. Then we point out how and in what ways WCC is similar to entrepreneurship. Next we apply the personality traits models and intentions models (based on the theory of planned behaviour) to entrepreneurship and WCC, comparing similarities and differences and reviewing the results. Finally we make suggestions for future research. This will include the empirical study of a hypothetical convergence between entrepreneurial inclination and WCC inclination and between entrepreneurial intentions and WCC intentions, based on the estimation of the two models.



## >> 2. PROBLEMS IN THE STUDY OF WHITE-COLLAR CRIME

Benson and Simpson (2009) and Friedrichs (2010) showed that those who commit WCC are likely to be conventionally non-criminal in profile: they are educated, have a stable job, tend to be older, and are usually well integrated into social and even religious institutions.

These specificities of WCC in relation to conventional crime pose several difficulties with the general theories of crime developed by mainstream criminology, and thus call, according to several authors, for the development of a distinct set of theories.

Sutherland (1940) ended his famous speech appealing for a general criminological theory able to explain both types of crime, conventional and white-collar. He proposed a differential association theory that departed from the idea of criminality as something directly and indirectly learned from those who already commit crimes. A propensity for criminal behaviour depends on the relative frequency of contact with favourable and unfavourable law-violation occasions. The greater the propensity, the higher the probability of prior induction into criminal behaviour. According to Sutherland (1983: 240): “the hypothesis of differential association is that criminal behaviour is learned in association with those who define such criminal behaviour favourably and in isolation from those who define it unfavourably, and that a person in an appropriate situation engages in such criminal behaviour if, and only if, the weight of the favourable definitions exceeds the weight of unfavourable definitions”. Another point was the social disorganisation hypothesis. This stated that society is not organised to combat criminal behaviour, particularly in the case of corporations and markets. In Sutherland’s words (Sutherland, 1940: cit. in Geis, 1968: 50) “The law is pressing in one direction and other forces are pressing in the opposite direction. In business, the “rules of the game” conflict with the legal rules. A businessman who wants to obey the law is driven by his competitors to adopt their methods.” The same occurs inside corporations where ‘other forces’ - illegal and unethical conduct in the pursuit of profit or personal gain - come to predominate over strict legality. The world of business may combine licit and illicit behaviour and induce a climate in which the individual conscience adapts to practices that are common in that environment. Employees may develop strong loyalties to the institution that commands their time and pays their salary, to the point where the norms of the work environment come to supersede those of family or religion. The same process of adaptation applies, of course, to conventional crime.

This theory has been criticised (Friedrichs, 2010: 235-236) for its inability to explain individual criminal behaviour, its confusion between a process of involvement in criminal behaviour with a cause of such behaviour and the fact that several collective forms of white-collar crime are committed by individuals who are otherwise law-abiding in their attitudes. It thus tends to “forget” the notion of individual responsibility in committing crimes. In the end, the theory may increase our understanding of the learning processes leading to WCC, but is insufficient to explain it. It fails to capture the role of intelligence and innovation that are key features of economic and financial crime.

Gottfredson e Hirschi (1990) proposed what is known as the General Theory of Crime (GTC). Crime is theorised as failure of self-control, this being defined as the individual's ability to control personal behaviour in order to achieve rewards and to avoid punishments. Low self-control results in impulsivity and in the adoption of risky behaviour. With the development of the theory other dimensions were incorporated into self-control, namely that individuals tend to be short-sighted in being overly concerned with immediate gratification rather than longer-term consequences. According to the GTC approach, crimes would be mostly committed by individuals who are low in intelligence and verbal capacity. The origin of low self-control can be found in poor parenting and its level is fixed in childhood and stable across lifetimes. Illicit opportunities are thus facilitators of deviant behaviour and the interaction of the factors of opportunity and low self-control foster criminal conduct.

Friedrichs (2010: 232) listed a number of critical readings of GTC. The theory adopts a notion of self-control so broad that it could be applied to all human activity, whilst failing adequately to explain most white-collar crime (WCC). According to GTC postulates, WCC should be a rare phenomenon, since those of white-collar status do not need to resort to criminal methods to obtain gratification, while the efforts they presumably made to reach that status probably implied a substantial level of self-control. Benson and Moore (1992) and Simpson and Piquero (2002) found that white-collar criminals show moderate and sometimes high levels of self-control. Moreover, WCC is clearly far from being a rare phenomenon. Finally, a large proportion of white-collar crime implies complex and intelligent schemes, involves planning, and is oriented towards long-term gains, contradicting what would be expected from the GTC. To conclude, the GTC, like the differential association theory, fails to explain economic and financial crimes designed and shaped with intelligence and innovation.

In contrast, Rational Choice Theory (RCT), formalised by Becker (1968), addresses the idea of individual responsibility in criminal behaviour. Crime

is seen as a function of individual rational choice, duly implemented after a process of weighting expected the benefits with the expected costs (objective and subjective). The assumption of rationality in criminal decision-making has been contested, however, and was later modified to a notion of limited rationality. According to this modified version, the choice to 'go criminal' is theorised as imperfect, since it depends on the decision context and also - since choices are imperfectly informed and often impetuously made - on an inadequate assessment of likely costs and benefits. The RCT has greater power to explain WCC because this type of crime tends not to be done on impulse but rather demands planning, intelligence and rational long-term preparation. The theory postulates that white-collar criminals evaluate resources and take risks in the rational pursuit of net gains. Thus, deterrence and prevention would logically entail an effort to increase the costs of committing such crimes by way of stiffened penalties and improved probabilities of detection (deterrence theory). The RCT thus imbricates criminal choice in the economic analysis of choice. Economic and financial crime is analysed within the same rational processes normally applied to investment choices or to business start-ups. However RCT does not include emotional and cognitive dimensions that might bear upon individual intentions to commit a crime, such as attitudes to crime, perceived self-control or subjective norms. This approach is fixed to a static evaluation of benefits and costs, within a simple rational process of dealing with information. Despite these limitations, the RCT has more power than the other two theories to explain economic and financial crimes designed and shaped with intelligence and innovation.

Another general theory of crime relevant to criminology literature is the anomie theory, proposed by Merton (1938). The concept of anomie was initially developed by Durkheim and in general terms signifies "the fault of norms". Merton (1938) revised the notion of anomie as the failure and/or inequity of legitimate means of achieving prestige, success, or other socially approved goals. This imbalance - anomie - between legitimate means and valorised ends creates social pressure on the individual to attenuate social controls and adopt deviant behaviour. Anomie theory led in turn to some refinements: the general strain theory developed by Agnew (1992) shifted attention from economic status to social psychological issues, explaining WCC as a negative emotional reaction to the environment and hence more relevant to the study of conventional crime; the institutional anomie theory (IAT) proposed by Messner and Rosenfeld (1994), which sees crime as the result of strong competition for limited resources in a society centred on financial success and an "anything goes" culture of greed. The IAT is thus clearly more relevant to WCC. According to IAT, individuals function in a society which, in exer-

ting permanent pressure for success, pays scant attention to the means of achieving it: those who fail to succeed are seen as losers. WCC could thus be explained as a response to strong social pressure especially when legitimate opportunities for obtaining profits and/or personal gains are either skewed or non-existent. This theory can provide information on what motivates the rich and employed to adopt criminal methods, since success and wealth are unlimited and desire for them infinite.

In introducing emotion and attitudes into the analysis, anomie theory is helpful in explaining economic and financial crimes designed and shaped with intelligence, in this way complementing the defects of the RCT. However, in our view, it is excessively general in explaining behaviour. It fails to explain why so many people in a society construed as anomic do not commit WCC, and what differentiates white-collar criminals from non-criminals.

In sum, we conclude that most important general theories of crime are insufficient to explain economic and financial crimes designed and shaped with intelligence and innovation.

## >> 3. BAUMOL'S HYPOTHESIS AND EVIDENCE: ENTREPRENEURSHIP AND WCC

### 3.1 Baumol's hypothesis

Economics ought to afford insights into WCC, given that the main goal of offenders is economic gain. Schumpeter (1934) revolutionised the subject by changing economic analysis from a static and equilibrium paradigm to a dynamic and evolutionary system. Technological change and innovation were henceforth understood to be the essential factors in the competition game and in the pursuit of monopoly power. The ability to make a difference to the status quo becomes the driver of economic dynamics. In this process creative destruction plays a role. Entrepreneurs are key players in this process, acting as both creators and destroyers, since the innovations they introduce make obsolete old products and ways of doing business, in the process creating new opportunities. Risk-taking and the recognition of opportunities are central to entrepreneurship. However, according to WCC literature, these two factors also characterise economic and financial crimes designed and shaped with intelligence. It is this parallelism that interests Baumol (1990), basing his work on Schumpeter's definition of entrepreneurship.

In the 1980s, following Schumpeter, the literature on entrepreneurship diversified, leading to much interdisciplinary research involving various pathways: economics, management, psychology, sociology, history, and even biology. At the beginning of the following decade Baumol added criminology to the list (Baumol, 1990). This author questioned whether entrepreneurship always creates social value. He suggested that entrepreneurs choose between productive, unproductive and destructive entrepreneurship<sup>1</sup> according to the expected net return on the use of their skills. Choosing the first generates social value, whereas choosing the others involves rent-seeking and illegal behaviour – e.g. white-collar and organised crime. However, moral issues may be supposed to enter into the cost-benefit calculus, since subjective as well as objective effects are likely to be relevant.

According to Schumpeter, the entrepreneur is a unique and creative individual who develops new products, services and techniques, which renew the ways in which people operate in a given environment. The famous five forms of innovation are:

---

<sup>1</sup> See in Desai and Acs (2007) the definition of the three types of entrepreneurship.

- “(1) Introduction of a new good – that is one with which consumers are not yet familiar – or of a new quality of a good.
- (2) The introduction of a new method of production, that is one not yet tested by experience in the branch of manufacture concerned, which need by no means be founded upon a discovery scientifically new, and can also exist in a new way of handling a commodity commercially.
- (3) The opening of a new market, that is a market into which the particular branch of manufacture of the country in question has not previously entered, whether or not this market has existed before.
- (4) The conquest of a new source of supply of raw materials or half-manufactured goods, again irrespective of whether this source already exists or whether it has first to be created.
- (5) The carrying out of the new organization of any industry, like the creation of a monopoly position (for example through trustification) or the breaking up of a monopoly position.” (Baumol quoting Schumpeter, 1912/1934: 66)

Baumol (1990) indicates that each form is compatible with unproductive entrepreneurship and it is important to understand what influenced the entrepreneur’s allocation of talent between the various possibilities offered by new combinations. He also argues that this list could be expanded to include rent-seeking (such as the discovery of a legal loophole that allows pioneers to capture rents, as in the case of abusive tax-avoidance schemes) and destructive activities that are profitable for those who exploit them, despite the decrease in social value. This does not contradict Schumpeter’s definition, because, for example, the creation of a monopoly position as described in item 5 may also destroy social value. Not admitting it would be reductionist: thus, according to Baumol, entrepreneurs are people “who are ingenious and creative in finding ways that add to their own wealth, power, and prestige, then it is to be expected that not all of them will be overly concerned with whether an activity that achieves these goals adds much or little to the social product or, for that matter, even whether it is an actual impediment to production.” (Baumol, 1990: 6).

There are of course many definitions of entrepreneurship. Some of these anticipate Baumol in pointing to the possible inclusion of WCC. Kirzner (1973), for example, defined the entrepreneur as an opportunist trader. According to this definition, the criminal needs merely to exploit the opportunity to trade to be labelled an entrepreneur.

Altogether, Smith and Gordon (2009) found sixty definitions in the literature - some of the best-known being listed in Table 1 below.

*Table 1: Definitions of entrepreneurship*

Essence of definition	Author
Entrepreneurs attempt to predict and act upon change within markets. The entrepreneur bears on the uncertainty of market dynamics.	(Knight, 1921, 1942)
The entrepreneur is always a speculator. He deals with the uncertain conditions of the future. His success or failure depends on the correctness of his anticipation of uncertain events. If he fails in his understanding of things to come he is doomed.	(von Mises, 1949/1996)
The entrepreneur is co-ordinator and arbitrageur.	(Walras, 1954)
Entrepreneurial activity involves identifying opportunities within the economic system.	(Penrose, 1959/1980)
The field of entrepreneurship involves the study of sources of opportunities; the processes of discovery, evaluation, and exploitation of opportunities; and the set of individuals who discover, evaluate, and exploit them.	(Shane & Venkataraman, 2000)
Entrepreneurship is a context dependent social process through which individuals and teams create wealth by bringing together unique packages of resources to exploit marketplace opportunities.	(Ireland, Hitt, & Sirmon, 2003)
Entrepreneurship is the mindset and process to create and develop economic activity by blending risk-taking, creativity and/or innovation with sound management, within a new or an existing organization.	(Commission of the European Communities, 2003)

Extracted from Ahmad and Seymour (2008: 7)

It is not hard to see that in these definitions the key terms are capable of substitution: “entrepreneur” may easily be replaced by “white-collar offender” (WCO), or “entrepreneurship” by “WCC”, without doing damage to the overall sense (Table 2). The elements of exploiting opportunities, risk-taking as well as innovation are common to both entrepreneurship and to elite economic and financial crime.

According to van Duyn (1999: 3): “The crime-entrepreneurship may seem confusing and look like a kind of self tormentation. Nevertheless this entrepreneur does not deviate from the more legitimate adventurer-entrepreneurial capitalists who stay (just) within the boundaries of the law.” In 1993, the same author had pointed out that “both organized criminals and legitimate entrepreneurs operate in a similar manner.” (cit. in Smith and Gordon, 2009: 257).

Table 2: Application of entrepreneurship definitions to WCC

Essence of definition	Author
WCOs attempt to predict and act upon change within markets. The WCO bears on the uncertainty of market dynamics.	(Adapted from Knight, 1921, 1942)
The WCO is always a speculator. He deals with the uncertain conditions of the future. His success or failure depends on the correctness of his anticipation of uncertain events. If he fails in his understanding of things to come he is doomed.	(Adapted from von Mises, 1949/1996)
The WCO is co-ordinator and arbitrageur.	(Adapted from Walras, 1954)
WC criminality involves identifying opportunities within the economic system.	(Adapted from Penrose, 1959/1980)
The field of WCC involves the study of sources of opportunities; the processes of discovery, evaluation, and exploitation of opportunities; and the set of individuals who discover, evaluate, and exploit them.	(Adapted from Shane & Venkataraman, 2000)
WCC is a context dependent social process through which individuals and teams create wealth by bringing together unique packages of resources to exploit marketplace opportunities.	(Adapted from Ireland, Hitt, & Sirmon, 2003)
WCC is the mindset and process to create and develop economic activity by blending risk-taking, creativity and/or innovation with sound management, within a new or an existing organization.	(Adapted from Commission of the European Communities, 2003)

Adapted from Ahmad and Seymour (2008: 7)

For Smith and Gordon (2009: 259): "(...) entrepreneurial behaviour becomes visible in the planning and organizing of the crime, and in the aftermath when covering their tracks and disposing of the proceeds – manifested as trading, arbitrage and wheeling and dealing." These authors reviewed the literature on the relation between organised crime and entrepreneurship and concluded that entrepreneurship is also embedded in organised crime. Based on van Duyne (1999), Smith and Gordon (2009) state that "(...) both crime and entrepreneurship emanate from learned cognitive human behaviours making them methods of operating." (Smith and Gordon, 2009: 256).

To sum up, the notion of a correspondence between entrepreneurship and WCC behaviour is not new. It may therefore be fruitful to apply entrepreneurship models to the study of WCC, since general theories of crime fail to capture important aspects of the subject.

### 3.2 Some empirical studies on the connection between entrepreneurship and white-collar crime

Some evidence does exist on the connection between entrepreneurship and WCC. Faragó et al. (2008) compared risk-taking amongst entrepreneurs, col-



lege students and convicted criminals in hypothetical betting situations.<sup>1</sup> They found large differences between entrepreneurs and college students and small differences between entrepreneurs and criminals. These two groups behave similarly in winning situations or in limited losing situations. Only in face of losing situations and the possibility of heavy losses is the behaviour of these two significantly different. White-collar criminals were not included in the study, but it is interesting to note the affinity between entrepreneurs and criminals and the gap between these two groups from non-criminals in attitudes to risk. Replicating the study with convicted white-collar criminals might well yield interesting results.

Weitzel et al. (2010) found a significant positive relation between entrepreneurship and selfish behaviour. The authors tested the hypothesis of selfish profit-seeking entrepreneurs, that is, how far entrepreneurs would be willing to harm others to increase their profits. The results indicate that the notion of the selfish entrepreneur cannot be ruled out.

Sanders and Weitzel (2010), following Baumol (1990), formulated a model to analyse the distribution of entrepreneurial talent between productive and unproductive activities. The unproductive entrepreneur was figured as a white-collar offender who chooses crime as a way of maximising gains.

Tonoyan et al. (2010), using data from the World Business Environment Survey (2000), concludes that corrupt behaviour in entrepreneurs is shaped by both formal (economic and legal rules or organisations) and informal institutions (culturally embedded codes of conduct, norms and values). This result gives some support to the idea that the difference between a white-collar offender and a productive entrepreneur lies partly in the specific environment - in terms of institutions and "rules of the game".

Summing up, the idea of entrepreneurship and WCC as "two faces of the same coin" is not confined to theoretical speculation, but has some empirical support. Propensities for entrepreneurship and WCC may be reflected by applying the same models.

---

<sup>1</sup> Convicted criminals for burglary and armed robbery.

## >> 4. BECOMING ENTREPRENEURS AND BECOMING WHITE-COLLAR OFFENDERS

In studying the propensity to entrepreneurial activity there are two dominant approaches. On one side there is the view that entrepreneurship depends on stable personality traits, which may be mediated by inherited or genetic factors. Following this approach, individuals may have a propensity to entrepreneurship based on personality traits that are normally stable across life (entrepreneurial inclination<sup>1</sup>). According to biogenetics, personality traits may be inherited and function as mediators of the influence of genes on entrepreneurial inclination (vide Nicolaou et al., 2008).

On the other side, there is an approach based on cognitive psychology and on the theory of planned behaviour (TPB), developed by Ajzen (1985), which argues that entrepreneurship depends on less stable factors such as individual attitudes towards entrepreneurship, subjective norms and perceived behaviour control. These three dimensions may explain entrepreneurial intentions<sup>2</sup> (vide Krueger et al., 2000).

### 4.1 Models based on stable factors for entrepreneurship

#### 4.1.1. *Personality traits as mediators of genetic influence on entrepreneurial behaviour*

Recently, evidence for the influence of genetic, endocrinological, biochemical, neurophysiological and neurological factors on human behaviour has been accumulating. This has largely displaced the notion of the mind as a “blank page” upon which psychosocial experiences write the determinants of behaviour. In light of these developments, entrepreneurial orientation will likely be better understood as being dependent on biological factors, mediated by personality traits.

Thus, White et al. (2006) tested testosterone levels as an index of entrepreneurial inclination, mediated by the personality trait risk propensity and concluded for a statistically significant positive relation.

<sup>1</sup> The word “inclination” draws attention to the stability across life of the factors that increase the propensity for someone becoming an entrepreneur.

<sup>2</sup> The word “intentions” underlines the attitudinal character of the propensity to someone become an entrepreneur. Accordingly to Krueger (2009: 51): “intentions are classically defined as the cognitive state temporally and causally prior to action”.

Nicolaou et al. (2008) reported that genetic factors do not determine entrepreneurship by themselves; psychological factors and social environment are influential and may have interactive effects. Nicolaou et al. (2009: 109 – 110) refer to several studies that found a genetic basis for several psychological characteristics related to an ability to identify business opportunities: creativity; openness to experience; autonomy. They also indicate some studies that demonstrate the presence of these psychological traits in entrepreneurs. Shane et al. (2010: 292 - 293) reviewed the literature supporting the thesis that the personality trait openness to experience has a genetic component.

Almost all research on the influence of genes is based on the comparison of monozygotic (MZ) and dizygotic (DZ) twins:

“Comparing the similarity and difference in entrepreneurship between the two types of twins provides insight into the proportion of variance in entrepreneurship that is explained by genetic factors. Because MZ twins share all of their genetic make-up and DZ twins share, on average, 50% of their segregating genes, greater MZ than DZ twin concordances in entrepreneurship would indicate that genetic factors are important. However, if the tendency to engage in entrepreneurship is explained solely by environmental factors, then no difference between MZ and DZ twin concordances in entrepreneurship should be observed.” (Nicolaou et al., 2008: 169)

This methodology provides no information on which genes are influential and how the interactions between genes and their mediators (e. g. personality traits) work. In the absence of such knowledge, it is not possible to produce quantitative estimates about the system of relations: genes – (phase 1) - personality traits – (phase 2) entrepreneurial inclination. Models constructed to date are solely focused in the second phase of relations (personality traits – entrepreneurial inclination).

#### *4.1.2 Models of the influence of personality traits on entrepreneurship*

The influence of personality traits on entrepreneurship attracted much attention until the end of the 1980s. However, according to Llewellyn and Wilson (2003), inconsistencies between theory and empirical results tended to reduce interest in this branch of research. Nevertheless, the relation between personality traits and entrepreneurial inclination continues to be debated.

In a review of the literature, Koh (1996) summarises the personality traits found to be most relevant to the study of entrepreneurship: internal locus of control; risk propensity; self confidence; need for achievement; tolerance to ambiguity; and innovativeness. Individuals with high internal locus of control feel themselves to be in command of events. Risk propensity denotes a disposition to take risks. Self-confidence characterises those that believe in their own capabilities. These are all traits predictive of entrepreneurial aptitude. The need for achievement was one of the first personality traits associated with entrepreneurs. Thus for Kobia and Sikalieh (2010) people more oriented towards personal achievement are more likely to become entrepreneurs. Tolerance to ambiguity is related to an ability to cope with uncertainty. Following Knight (1921) what distinguishes the entrepreneur from the non-entrepreneur is the ability to handle uncertain market dynamics. Innovation, of course, is the concept most associated with entrepreneurship, under the influence of Schumpeter (1934) and, later, of Drucker (1985).

Mixed empirical findings weakened the role of personality in the study of entrepreneurship, however. According to Littunen (2000), internal locus of control and need for achievement have been recognised as traits highly associated with entrepreneurship.

Zhao and Seibert (2006) examined the role of personality traits in entrepreneurship over the last four decades and concluded that inconsistencies between theory and results stemmed from inappropriate use of personality variables, reflecting the state of personality research at time. However:

“Two major developments that occurred in the last 15 years can help us draw more meaningful conclusions from the literature on personality and ES.” (ES - entrepreneurial status) “First, the emergence of the five-factor model of personality (FFM; Costa & McCrae, 1992; Digman, 1990) allows us to organize a vast variety of personality variables into a small but meaningful set of personality constructs to search for consistent and meaningful relationships. Second, psychometric meta-analysis (e.g., Hunter & Schmidt, 1990) allows us to produce a synthesized effect size estimate for each construct that accounts for research artifacts such as low reliability and sampling error that can mask the emergence of a true relationship.” (Zhao and Seibert, 2006: 259)<sup>1</sup>

---

<sup>1</sup> Apud Zhao and Seibert (2006): Costa, P. T., Jr., & McCrae, R. R. (1992). Revised NEO Personality Inventory (NEO-PI-R) and NEO Five Factor Inventory (NEO-FFI) professional manual. Odessa, FL: PAR. Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology*, 41, 417–440.

A brief characterisation of the FFM can be seen in Zhao and Seibert (2006: 260-262).

*Table 3: The Five-Factor Model of Personality (FFM)*

Personality Traits	Brief Description
Neuroticism	<i>"Neuroticism represents individual differences in adjustment and emotional stability. Individuals high on Neuroticism tend to experience a number of negative emotions including anxiety, hostility, depression, self-consciousness, impulsiveness, and vulnerability (Costa &amp; McCrae, 1992). People who score low on Neuroticism can be characterized as self-confident, calm, even tempered, and relaxed."</i>
Extraversion	<i>"Extraversion describes the extent to which people are assertive, dominant, energetic, active, talkative, and enthusiastic (Costa &amp; McCrae, 1992). People who score high on Extraversion tend to be cheerful, like people and large groups, and seek excitement and stimulation. People who score low on Extraversion prefer to spend more time alone and are characterized as reserved, quiet, and independent. Costa and McCrae (1992) described salespersons as prototypical extraverts. Extraversion is positively related to interest in enterprising."</i>
Openness to Experience	<i>"Openness to Experience is a personality dimension that characterizes someone who is intellectually curious and tends to seek new experiences and explore novel ideas. Someone high on Openness can be described as creative, innovative, imaginative, reflective, and untraditional. Someone low on Openness can be characterized as conventional, narrow in interests, and unanalytical. Openness is positively correlated with intelligence, especially aspects of intelligence related to creativity, such as divergent thinking."</i>
Agreeableness	<i>"Agreeableness assesses one's interpersonal orientation. Individuals high on Agreeableness can be characterized as trusting, forgiving, caring, altruistic, and gullible. The high end of Agreeableness represents someone who has cooperative values and a preference for positive interpersonal relationships. Someone at the low end of the dimension can be characterized as manipulative, self-centered, suspicious, and ruthless (Costa &amp; McCrae, 1992; Digman, 1990). Although Agreeableness may lead one to be seen as trustworthy and may help one form positive, cooperative working relationships, high levels of Agreeableness may inhibit one's willingness to drive hard bargains, look out for one's own selfinterest, and influence or manipulate others for one's own advantage."</i>
Conscientiousness	<i>"Conscientiousness indicates an individual's degree of organization, persistence, hard work, and motivation in the pursuit of goal accomplishment. Some researchers have viewed this construct as an indicator of volition or the ability to work hard" (...) "Many scholars regard Conscientiousness as a broad personality dimension that is composed of two primary facets: achievement motivation and dependability."</i>

Adapted from Zhao and Seibert (2006:260 - 262).

Zhao and Seibert (2006) constructed a meta-analysis of the review of the relationship between the Big Five personality dimensions and entrepreneurship and concluded that, "entrepreneurs differ from those in managerial positions on four of the five fundamental dimensions of personality." (Zhao and Seibert,

2006: 265) The only dimension where no significant difference was found between entrepreneurs and managers was extraversion. The personality construct with the strongest relationship to entrepreneurship was conscientiousness, especially in relation to achievement motivation. This result confirms previous research in personality and entrepreneurship which concluded that achievement need is associated with entrepreneurship. Important also is the confirmation that innovation is associated with entrepreneurship. The results of Zhao and Seibert (2006) show “that entrepreneurs scored higher on openness to experience than did managers. Innovation, change, and creativity are at the core of recent definitions of entrepreneurship...” (...) “and these traits evoke Schumpeter’s...” (...) “classic description of the entrepreneur as the agent of ‘creative destruction’”. (Zhao and Seibert, 2006: 266)

Antoncic (2009) empirically tested the FFM to technological developments by entrepreneurs and concluded that there are two personality factors, which are predictive of technological developments: openness to experience (positive impact) and neuroticism (negative impact).

An additional dimension of personality widely studied in entrepreneurship is, as noted above, risk propensity. According to Zhao and Seibert (2006) the inclusion of risk propensity within the FFM is controversial: “(...) some personality researchers argue that it forms a separate sixth dimension of personality” (...) “Thus, it is appropriate to examine risk propensity as a separate construct outside of the FFM...” (Zhao and Seibert, 2006: 259)

Stewart and Roth (2001) conducted a meta-analysis on the literature concerning risk propensity differences between entrepreneurs and managers and concluded that: “the risk propensity of entrepreneurs is greater than that of managers.” Stewart and Roth (2001: 145)

Miner and Raju (2004) refute this result, but Stewart and Roth (2004) reaffirm their previous results. Caliendo et al. (2009) confirm a positive relation between risk propensity and entrepreneurship.

In sum it is possible to conclude that there is an association between some personality traits and entrepreneurial inclination<sup>1</sup>. Table 4 lists those personality traits for which the evidence for such a relation is most robust.

---

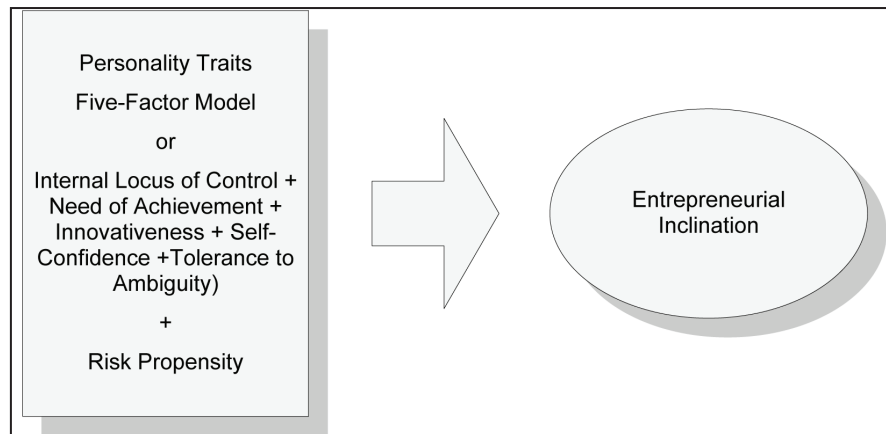
<sup>1</sup> Koh (1996) estimated entrepreneurial inclination by asking respondents to indicate their probability of starting a business in the next three years or so. Respondents who had a high or very high probability of starting a business were classified as entrepreneurially inclined; the others were classified as non-entrepreneurially inclined. That is, entrepreneurial inclination was measured as a dichotomous variable.

*Table 4: Personality traits associated to entrepreneurial inclination*

FFM + Risk Propensity	Entrepreneurship Literature	Evidence
Openness to Experience	Innovation	Robust
Conscientiousness (Achievement)	Need of Achievement	Robust
Low Neuroticism	Self - Confidence	Robust
Agreeableness	-----	Some evidence
Extraversion	-----	Inconclusive
Risk Propensity	Risk Propensity	Robust
(a mix of several dimensions of FFM)	Internal Locus of Control	Robust
(a mix of several dimensions of FFM)	Tolerance to Ambiguity	Inconclusive

a) The personality dimensions showing a more robust association are marked in grey.

Fig. 1 shows the model used to study the influence of personality traits in entrepreneurial inclination.

*Fig. 1: Personality Traits Model for Entrepreneurial Inclination*

The hypotheses implied are (test if are rejected):

H1 – H6 (Koh, 1996): Individuals who are entrepreneurially inclined and those who are not have the same level of - H1: need for achievement; H2: internal locus of control; H3: risk-taking propensity; H4: ambiguity tolerance; H5: self-confidence; H6: innovativeness.

Or using the FFM and risk-taking propensity:

H1 – H6: Individuals who are entrepreneurially inclined and those who are not have the same level of - H1 - H5: each of the FFM constructs; H6: risk-taking propensity.

## 4.2 Personality traits and WCC

There has been much work on the relation between personality traits and WCC, and several studies use the FFM, while others use alternative methodologies to measure personality. Guedes and Cruz (2011) summarised the results of several studies on personality traits and WCC, some of them review articles. The conclusions are not as clear as in the case of entrepreneurship, and the results of different studies disagree. There are mixed results for extroversion (as in entrepreneurship studies) and for conscientiousness (some WCC studies concur with entrepreneurship studies in pointing to a higher level of that trait in WCC – e. g. Blickle et al. (2006). However, other studies – e. g. Ragatz and Fremouw, (2010) - disagree). It is possible that these disagreements originate in divergence in the operationalisation of definitions and in the methodologies chosen. However, some relation between neuroticism and agreeableness was found, indicating that WCOs are more neurotic (in contrast to the results on this personality trait obtained for entrepreneurs) and less agreeable than non-criminals.

The dimension openness to experience in relation to WCC has scarcely been studied. Accordingly to Elliot (2010: 274): "(...) those high in this trait also tend to have a broad range of interests (...)", and Collins and Schmidt, 1993) in a study that compared the personality traits between convicted WCOs and WC non-offenders concluded that the first are more involved in extracurricular activities (the authors did not use the FFM, but the PDI Employment Inventory), which may be associated with a high level of openness to experience. Nevertheless, more research has to be done on the relationship between this personality trait and WCC.

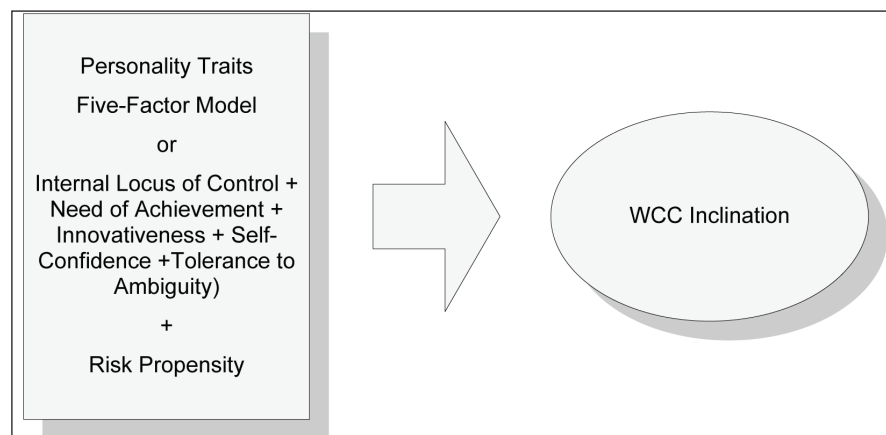
Concerning the dimension risk propensity, Faragó et al. (2008) concluded, as noted above, that offenders evidence higher risk behaviour than entrepreneurs in face of unlimited loss situations. The same experiment should be applied to WCC and the results compared to the results of entrepreneurs. Although further research is needed, it is to be expected that WCOs would show a higher risk propensity than non-criminals, as is the case with entrepreneurs in relation to non-entrepreneurs.

In sum, more research is required on the relation between personality traits and WCC, with a specific focus on more complex economic and finan-



cial crimes requiring intelligence and innovative techniques. Present results (insufficient to warrant firm conclusions) indicate that the major difference in personality between entrepreneurs and WCOs is in terms of the higher levels of anxiety - an element of neuroticism - exhibited by WCOs<sup>1</sup>. In the other personality trait constructs, no clear differences emerge between entrepreneurs and WCOs. Fig. 2 describes the personality model for WCC inclination<sup>2</sup>.

*Fig. 2: Personality Traits Model for WCC Inclination*



The hypotheses implied are (test if are rejected):

H1 – H6 (adapted from Koh, 1996): Individuals who are WCC inclined and those who are not have the same level of - H1: need for achievement; H2: internal locus of control; H3: risk-taking propensity; H4: ambiguity tolerance; H5: self-confidence; H6: innovativeness.

Or using the FFM and risk-taking propensity:

H1 – H6: Individuals who are WCC inclined and those who are not have the same level of - H1 - H5: each of the FFM constructs; H6: risk-taking propensity.

<sup>1</sup> Ragatz and Fremouw (2010: 396): "(...) white-collar offenders reported higher levels of anxiety (...) than white-collar professionals.", on the contrary, as mentioned above, the personality of entrepreneurs is associated to a lower level of neuroticism than that which is evidenced by non-entrepreneurs.

<sup>2</sup> WCC inclination could be measured asking the respondents for probability of assuming a set of behaviours presented in the form of scenarios that constitute white-collar offenses. Then, as in Koh (1996), respondents who had a high or very high probability of committing WCC would be classified as WCC inclined; the others would be classified as non-WCC inclined. That is, WCC inclination would be measured as a dichotomous variable.

## >> 5. MODEL OF INTENTIONS: ENTREPRENEURSHIP AND WCC

Ajzen and Fishbein (1977) and Gibb (2000) point out that the use of personality traits as a basis for developing a model of entrepreneurship suffer from conceptual and methodological problems. This is because personality traits tend to be stable across time and enterprise skills by contrast can be learned and developed through experience. According to Robinson et al. (1991), a cognitive approach based on attitudes is thus to be preferred. Attitudes are less stable than personality traits and change both across time and across situations through interaction with the environment. Several attitude models were applied to explain entrepreneurship: the Entrepreneurial Attitude Orientation model, comparing entrepreneurs to non-entrepreneurs (Robinson et al., 1991); the Attitude Towards Entrepreneurship model, comparing entrepreneurship potential in young people (Athayde, 2009) and the Theory of Planned Behaviour (TPB), explaining entrepreneurship intentions (Krueger, 1993). Krueger (2009), in charting the history of intention models as applied to entrepreneurship, argues that the theories developed by social and cognitive psychology had produced testable models, and, specifically, that intention models were already used in marketing with very robust results. Extending their application to entrepreneurship would therefore be viable. Since Krueger (1993) pioneered this approach, a large number of studies have appeared on this topic. The empirical results are robust and the model evidences high explanatory power.<sup>1</sup>

Krueger et al. (2000:411) explained the relevance of intention models to the study of entrepreneurship:

“Why are intentions interesting to those who care about new venture formation? Entrepreneurship is a way of thinking, a way of thinking that emphasizes opportunities over threats. The opportunity identification process is clearly an intentional process, and, therefore, entrepreneurial intentions clearly merit our attention. Equally important, they offer a means to better explain—and predict—entrepreneurship.

We don't start a business as a reflex, do we? We may respond to the conditions around us, such as an intriguing market niche, by starting a new

<sup>1</sup> Krueger et al. (2000:416) denote that existing results show that intentions are a better predictor of behaviour than personality traits or other approaches used in entrepreneurship literature: “Across a wide range of studies relating to a wide variety of types of behaviours and the intentions to engage in those behaviours, attitudes explain over 50% of the variance in intentions. Intentions explain 30% or more of the variance in behaviour. Explaining 30% of the variance in behaviour compares favorably to the 10% typically explained directly by trait measures or attitudes.”

venture. Yet, we think about it first; we process the cues from the environment around us and set about constructing the perceived opportunity into a viable business proposition.

In the psychological literature, intentions have proven the best predictor of planned behaviour (...). "New businesses emerge over time and involve considerable planning. Thus, entrepreneurship is exactly the type of planned behaviour" (...) "for which intention models are ideally suited. If intention models prove useful in understanding business venture formation intentions, they offer a coherent, parsimonious, highly-generalizable, and robust theoretical framework for understanding and prediction." (Krueger et al., 2000:411)

If, in this quotation, we substitute the expressions related to entrepreneurship and venture creation by "WCC intentions", "planning (creation) of a scheme of WCC", the text continues to make substantive sense, since WCC is a type of planned behaviour, "a way of thinking that emphasizes opportunities over threats". Identifying opportunity also plays a role on the intentional process. Truly, "We don't" (commit WCC) "as a reflex, do we? We may respond to the conditions around us, such as an intriguing market niche (...)".

Intention models, in particular the TPB, have been applied to many types of human behaviour, including unethical behaviour and some types of white-collar crime and, from what has been remarked above, it seems that there are reasonable arguments for doing so.

## **5.1 Theory of Planned Behaviour and entrepreneurial intentions**

Krueger et al. (2000) explain that the TPB has been successfully in applied to various issues and that it is derived from other intention models, configuring a robust approach to explain intentions. Guerrero et al. (2008) note that the TPB stands out among several existing models. Armitage and Conner (2001: 471), in a meta-analysis of the TPB, confirm the strength of the model: "from a database of 185 independent studies published up to the end of 1997, the TPB accounted for 27% and 39% of the variance in behaviour and intention, respectively. The perceived behavioural control (PBC) construct accounted for significant amounts of variance in intention and behaviour, independent of theory of reasoned action variables."

A summary of the TPB can be found in Ajzen (2002: 2):

“According to the theory, human behaviour is guided by three kinds of considerations: beliefs about the likely consequences of the behaviour (behavioural beliefs), beliefs about the normative expectations of others (normative beliefs), and beliefs about the presence of factors that may facilitate or impede performance of the behaviour (control beliefs). In their respective aggregates, behavioural beliefs produce a favourable or unfavourable attitude toward the behaviour; normative beliefs result in perceived social pressure or subjective norm; and control beliefs give rise to perceived behavioural control. In combination, attitude toward the behaviour, subjective norm, and perception of behavioural control lead to the formation of a behavioural intention. As a general rule, the more favourable the attitude and subjective norm, and the greater the perceived control, the stronger should be the person's intention to perform the behaviour in question. Finally, given a sufficient degree of actual control over the behaviour, people are expected to carry out their intentions when the opportunity arises. Intention is thus assumed to be the immediate antecedent of behaviour. However, because many behaviours pose difficulties of execution that may limit volitional control, it is useful to consider perceived behavioural control in addition to intention. To the extent that perceived behavioural control is veridical, it can serve as a proxy for actual control and contribute to the prediction of the behaviour in question.” (Ajzen, 2002: 2)

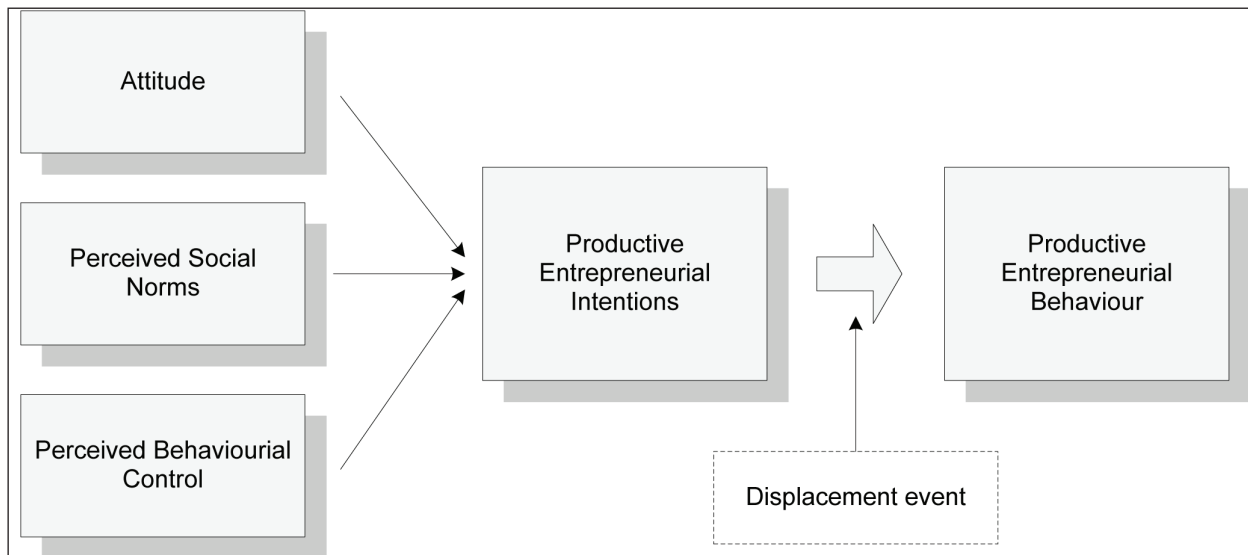
The three crucial elements of the TPB are: Attitude; Perceived Social Norms; Perceived Behavioural Control:

“TPB identifies three attitudinal antecedents of intention. Two reflect the perceived desirability of performing the behaviour: personal attitude toward outcomes of the behaviour and perceived social norms. The third, perceived behavioural control, reflects perceptions that the behaviour is personally controllable. Perceived behavioural control reflects the perceived feasibility of performing the behaviour and is thus related to perceptions of situational competence (self-efficacy).” (Krueger et al., 2000: 416)

When the TPB is applied to entrepreneurial intentions, *attitude* is a construct that reflects the perceived desirability of performing the behaviour – hypothesis: attitude (perceived desirability, in Krueger, 1993) is positively associated with entrepreneurial intentions. *Perceived social norms* (also known as subjective norms) denotes a construct to measure the influence of important others on personal entrepreneurial intentions - hypothesis: expo-

sure to perceived social norms that are conducive to entrepreneurship or being in contact with others who valorise entrepreneurial activity increase entrepreneurial intentions, and vice versa. Perceived social norms include the expectations of family or of friends concerning entrepreneurship, or the way they think about entrepreneurs. *Perceived behavioural control* (perceived feasibility, in Krueger, 1993) is perceived self-efficacy, that is, the perceived ability to execute a target behaviour – hypothesis: this is positively associated with entrepreneurial intentions. According to Krueger et al. 2000: 418): “Self-efficacy is linked to initiating and persisting at behaviour under uncertainty, to setting higher goals, and reducing threat-rigidity and learned helplessness (...)” “This is important because opportunity recognition depends on situational perceptions of controllability (...) and self-efficacy.” (...) “In addition, self-efficacy has been associated with opportunity recognition and risk-taking (...)”<sup>1</sup> In Fig. 3 can be seen a representation of the model of productive entrepreneurial intentions (including the influence on the behaviour).

Fig. 3: TPB and productive entrepreneurial intentions



The hypotheses implied are (test if rejected):

- H1: Personal attitude does not influence productive entrepreneurial intentions.  
H2: Perceived behavioural control does not influence productive entrepreneurial intentions.

<sup>1</sup> The association between opportunity recognition and risk taking and one of the constructs of the entrepreneurial intentions model (Perceived Behaviour Control) is an element of support for the adequacy of the same model to WCC intentions

H3: Perceived social norms do not influence productive entrepreneurial intentions.

Some examples of TPB as applied to productive entrepreneurial intentions are Krueger (1993), Krueger et al. (2000), Kolvereid and Isaksen, (2006), Carr and Sequeira (2007), Liñán and Chen (2009) and Paço et al. (2011). Measurement of the TPB constructs was obtained by way of survey questionnaires to samples of students (mainly final year)<sup>1</sup>.

The questionnaires included several groups of questions related to demographic characteristics, personal attitudes, subjective norms, perceived behavioural control and entrepreneurial intention. According to Paço et al. (2011: 27): "The use of self-assessment to determine students' entrepreneurship attitudes represents well accepted practice in field of entrepreneurship research." Most studies of TPB use the methodologies of regression analysis and, more recently, structural equation modelling.

According to Liñán and Chen (2009), results indicate that this model explains about 40% of the variance in entrepreneurial intentions. Results also reveal that attitude and perceived behavioural control are statistically significant with the expected behavioural signs, with only the results for the influence of perceived social norms being inconclusive (e.g. in Krueger et al., 2000 and in Paço et al., 2011, relations were non-significant, whilst in Kolvereid and Isaksen, 2006 and in Carr and Sequeira, 2007 they were significant). Armitage and Connor (2001) in a meta-analytic review to the TPB note that:

"Several researchers have argued that the subjective norm component of the TPB is inadequate and rarely predicts intention, and so have removed it from analysis (...)." "The present meta-analysis provides some support for this view: subjective norm was the TPB component most weakly related to intention." (...) "Clearly, this component requires further empirical attention." (Armitage and Connor, 2001: 488)

## 5.2. Theory of Planned Behaviour and WCC intentions

The application of the TPB to WCC is challenging and somewhat complex, since measurement of the TPB constructs in relation to destructive behaviour is not easily obtained. Respondents may be unwilling to reveal WCC

<sup>1</sup> Usually questionnaires are not surveyed on entrepreneurs, because their different passed experiences may introduce a bias on their entrepreneurial attitude and intentions

intentions, subjective desirability of WCC behaviour (WCC attitude) and the ability to execute it. Even the perceived social norms concerning WCC may be difficult to apprehend. Nevertheless, we can find in literature several studies applying the TPB to unethical behaviour, deviance and crime, with sound results. The pioneering study is that of Beck and Ajzen (1991), who found the TPB able to predict dishonest behaviour (cheating on a test, shoplifting, and lying to get out of assignments) and “Multiple regression analyses showed that the theory of planned behaviour predicted intentions with a high degree of accuracy, and that it was moderately successful in the prediction of actual behavior.” (Beck and Ajzen, 1991: 285).

Examples of the application of the TPB to conventional crime are: Parker et al. (1992) - on intention to commit driving violations; Chang (1998) - on inadequate patient care; McMillan and Conner (2003) - on illicit drug use among students; Miller (2010) - on sexual offending; Kiriakidis (2010) - on young offenders' intentions to re-offend.

Moreover, there are applications of the TPB to WCC, as in Carpenter and Reimers (2005) - on unethical and fraudulent financial reporting; Bailey (2006) - on retail employee theft; Zawawi et al (2008) - on behavioural intention for fraudulent reporting behaviour; Stone et al. (2010) - on predicting academic misconduct intentions and behaviour.

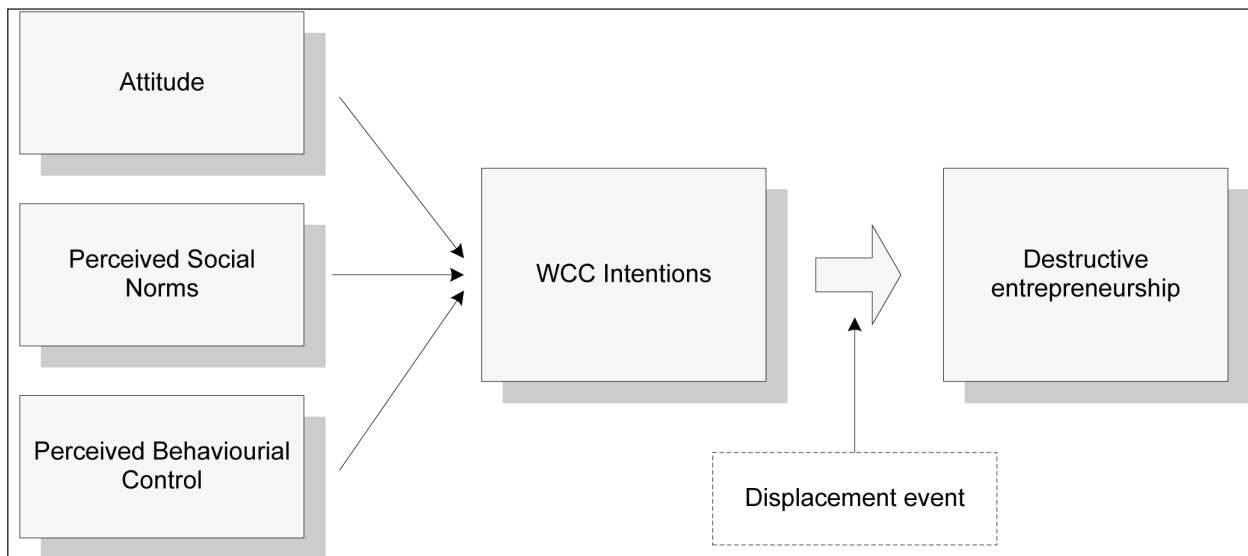
However, to our knowledge, there are no studies comparing the same individuals concerning entrepreneurial intentions and WCC intentions. As noted above, according to Baumol (1990), individual differences between productive, unproductive or destructive entrepreneurs may not exist, because what matters is the maximisation of benefits in a “rules of the game” context. Thus, one who recognises an opportunity, takes risks and deploys his or her talent in innovative WCC is also a type of entrepreneur who finds in crime the best way to maximise earnings. Consequently, if perceived social norms do not influence intentions, it is expected that those who evidence entrepreneurial intentions also manifest WCC intentions. When perceived social norms are influential in the formation of individual intentions, the association between entrepreneurial intentions and WCC intentions may not exist, because when the subject's close associates (family members or peers) assign differential values to the entrepreneur or the criminal, the subject's entrepreneurial intentions (productive entrepreneurship) and WCC intentions (destructive entrepreneurship) may also diverge. However, as noted above, the construct *perceived social norms* is the component with weaker results in the TPB and, as already stated, some authors advocate its removal from the model.

The degree of association between entrepreneurial intentions and WCC intentions is a central issue in the application of the TPB in this study. In

operational terms, WCC intentions can be grasped by adding to the survey scenarios (or vignettes) featuring fictional white-collar offences<sup>1</sup>. Following the study by Weitzel et al. (2010), a game theory experiment could also be devised to discover whether those who evidence entrepreneurial intentions behave selfishly (i.e. are willing to harm others to increase their earnings).

In short, if the positive relationship between entrepreneurial intentions and WCC intentions is not rejected we may establish that institutions and the contextual “rules of the game” (e.g. regulatory framework, the efficiency of the judicial system) matter and should be shaped so as to reduce the attractiveness of unproductive entrepreneurship (reducing net gains from WCC) and to incentivise productive entrepreneurship. If the influence of *perceived social norms* is not rejected, social context also becomes relevant in the choice between productive and unproductive entrepreneurship. Control variables on other individual and contextual influences will also be considered, such as morality, religious affiliation, regulatory framework, and others. Fig. 4 describes the model of WCC intentions (including influence on behaviour).

Fig.4: TPB and WCC intentions



The hypotheses implied are (test if are rejected):

- H1: Personal attitude does not influence WCC intentions.
- H2: Perceived behavioural control does not influence WCC intentions.

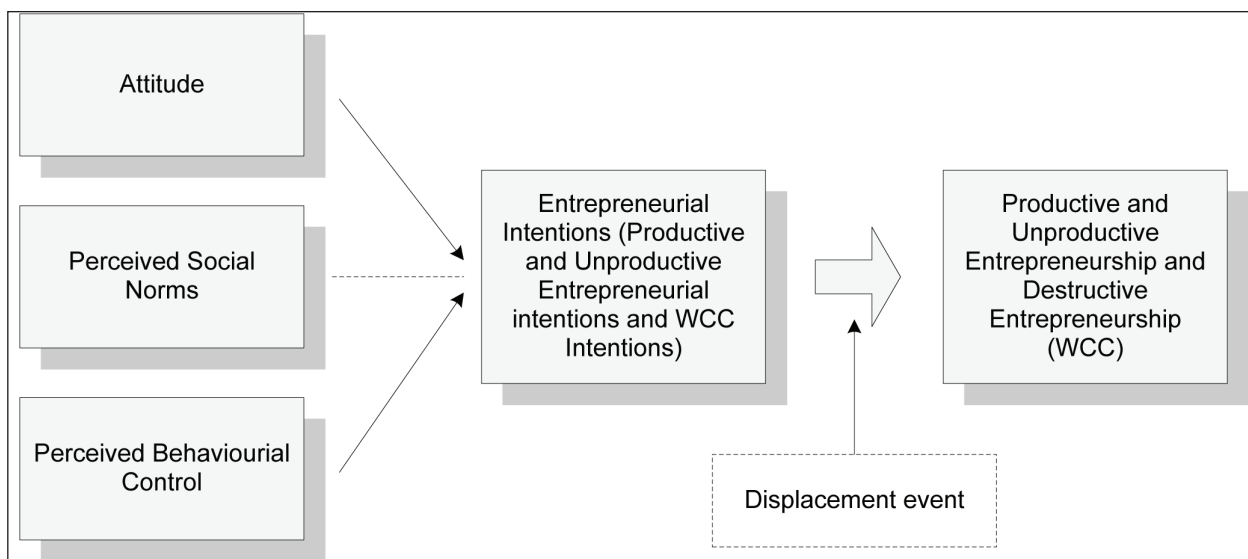
<sup>1</sup> The Vignette Technique is described in Finch (1987).



H3: Perceived Social Norm does not influence WCC intentions.

When the construct *perceived social norms* is not influential on entrepreneurial intentions neither on WCC crime<sup>1</sup>, theoretically the model in Fig. 5 explains all types of entrepreneurship.

Fig.5: TPB and entrepreneurial intentions<sup>2</sup>



The hypotheses implied are (test if are rejected):

H1: Personal attitude does not influence entrepreneurial intentions.

H2: Perceived behavioural control does not influence entrepreneurial intentions.

H3: Perceived Social Norm does not influence entrepreneurial intentions.

The estimation of the model presented in Fig. 5 might not be feasible because the simultaneous operationalization of its constructs for productive and destructive entrepreneurship will be an overwhelming challenge.

<sup>1</sup> Or in the improbable case in which WCC and entrepreneurship are valued the same way by people who are important in the lives of surveyed individuals.

<sup>2</sup> In this model the operationalisation of the definition of "entrepreneurship" and the measurement of entrepreneurial intentions would be extremely difficult, because they had to be broad enough to include launching a new business, but also tax planning abuse, schemes of complex and innovative fraud, and so one. So the joint application of the TPB model to entrepreneurship and white-collar offenses would probably be an impossible task.

The personality traits model and the entrepreneurial intentions model might be combined in order to test whether personality traits directly influence entrepreneurial intentions or whether their influence is mediated by *personal attitude* or even by the *perceived behaviour control*. Obschonka et al. (2010) estimated a combined model for entrepreneurial intentions.

## >> 6. CONCLUSIONS

Based on Baumol (Baumol, 1990), we formulated a theoretical framework for integrating the empirical study of entrepreneurship and white-collar crime (WCC) designed with intelligence and innovation. This proposed a combination of models often used separately: the personality traits model; the theory of planned behaviour (TPB).

The propositions ( $P_i$ ) that result from this theoretical framework and that require empirical verification are:

From the Personality Traits Model:

$P_1$ : Individuals revealing entrepreneurial inclination are expected to show the same personality traits of those revealing WCC inclination. Controlling for individual socio-demographic variables we expect to find (i) a high degree of association between entrepreneurial inclination and WCC inclination and (ii) that the results of the personality traits model for entrepreneurial intentions will be similar to the results for WCC inclination.

From the Intentions Model:

$P_2$ . Individuals revealing entrepreneurial intentions will also reveal WCC intentions. – Controlling for individual socio-demographic variables and if the construct *perceived social norms* is not significant in the TPB model of productive entrepreneurial intentions and in the TPB model of WCC intentions, we expect to find (i) a high degree of association between entrepreneurial intentions and WCC intentions and also (ii) that the results of the application of the TPB to productive entrepreneurial intentions (in terms of explained variance of intentions and of the significance of TPB constructs) will be similar to the results of the application of the TPB to WCC intentions.

$P_3$ . Individuals revealing entrepreneurial intentions will also reveal selfish behaviour patterns. – Controlling for individual socio-demographic variables and if the construct *perceived social norms* is not significant in the TPB model of productive entrepreneurial intentions and in the TPB model of WCC intentions, a high degree of association is expected between entrepreneurial intentions and selfish behaviour.

Empirically testing these propositions can be viewed as an additional test of the Baumol hypothesis, but some problems arise for several reasons.

The joint empirical application of the TPB model to entrepreneurship and white-collar offenses (Fig 5) might not be feasible, so the number of items in the questionnaire survey will likely increase, because the constructs of the TPB model that are expected to influence entrepreneurial intentions and WCC intentions are dissimilar (it will be necessary to include the constructs of the model shown in Fig. 3 and those in Fig.4). In the personality traits model, this problem could be overcome, because harmonization of the measurement of personality dimensions between the entrepreneurial inclination model and the WCC inclination model is an attainable task.

On the measurement of WCC inclination and WCC intentions we anticipate a certain measure of response dishonesty and possible social desirability bias.

In addition, the devising of WCC scenarios that involve innovation and complexity may be problematic.

Finally the configuration of a behavioural game theory experiment to measure selfishness is not consensual among scholars.

## References

- Agnew, R. 1992. Foundation for a general strain theory of crime and delinquency. *Criminology*, 30: 47–87.
- Ahmad, N. and Seymour, R. G. 2008. Defining entrepreneurial activity: definitions supporting frameworks for data collection. OECD Statistics Working Paper, 24-Jan-2008. Accessed at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1090372](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1090372).
- Ajzen, I. 1985. From intentions to actions: A theory of planned behaviour, pp. 11-39. In Julius Kuhl and Jurgen Beckmann (ed.) *Action Control: from Cognition to Behaviour*, Springer-Verlag, Berlin.
- Ajzen, I. 2002. Perceived behavioural control, self-efficacy, locus of control, and the theory of planned behaviour. *Journal of Applied Social Psychology*, 32: 665-683.
- Ajzen, I., and Fishbein, M. 1977. Attitude. behaviour relations: a theoretical analysis and review of empirical research. *Psychological Bulletin*, 84: 888-918.
- Antonicic, B. 2009. The entrepreneur's general personality traits and technological developments. *World Academy of Science, Engineering and Technology* 53: 236-241.
- Armitage, C. J. and Conner, M. 2001. Efficacy of the theory of planned behaviour: a meta-analytic review. *British Journal of Social Psychology*, 40: 471–499.
- Athayde, R. 2009. Measuring enterprise potential in young people. *Entrepreneurship Theory and Practice* 33: 481 – 500.
- Bailey, A. (2006), 'Retail Employee Theft: A Theory of Planned Behavior Perspective', *International Journal of Retail & Distribution Management*, 34/11: 803-816.
- Baumol, W. 1990. Entrepreneurship: productive; unproductive; and destructive. *Journal of Business Venturing*, 11: 3-22.
- Bacher, J. L. 2005. *La Criminalité Économique: Ses Manifestations, Sa Prévention et Sa Répression*. L'Harmattan, France.
- Beck, L. and Ajzen, I. 1991. Predicting dishonest actions using the theory of planned behaviour, *Journal of Research in Personality*, 25: 285-301.
- Becker, G.S. 1968. Crime and punishment: an economic approach. *Journal of Political Economy*, 76: 169–217.
- Benson, M. L. and Moore E. 1992. Are white-collar and common offenders the same? An empirical and theoretical critique of a recently proposed general theory of crime. *Journal of Research in Crime and Delinquency*, 29: 251-272.

- Benson M. L. and Simpson, S. S. 2009. White-Collar Crime: An Opportunity Perspective, Routledge, New York.
- Blickle, G., Schlegel, A., Fassbender, P., and Klein, U. 2006. Some personality correlates of business white-collar crime. *Applied Psychology: An International Review*, 55: 220-233.
- Brightman, H. 2009. Today's White Collar Crime: Legal, Investigative, and Theoretical Perspectives. Routledge, New York.
- Caliendo, M., Fossen, F. and Kritikos, A. 2009. Risk attitudes of nascent entrepreneurs: new evidence from an experimentally-validated survey. *Small Business Economics* 32: 153–167.
- Carpenter, T. D., and Reimers, J. L. 2005. Unethical and fraudulent financial reporting: applying the theory of planned behaviour. *Journal of Business Ethics* 60: 115–129.
- Carr, J. C. and Sequeira, J. M. 2007. Prior family business exposure as inter-generational influence and entrepreneurial intent: A theory of planned behaviour approach. *Journal of Business Research* 60: 1090–1098.
- Chang, M. K. 1998. Predicting unethical behaviour: a comparison of the theory of reasoned action and the theory of planned behaviour. *Journal of Business Ethics* 17: 1825–1834.
- Clinard, M. and Quinney, R. 1967. *Criminal Behaviour Systems: A Typology*. Holt, Rinehart & Winston, New York.
- Coleman, James, 2006. *The Criminal Elite*, 6th ed. St. Martin's Press, New York.
- Collins, J. and Schmidt, F. 1993. Personality, integrity and white collar crime: a construct validity study. *Personnel Psychology* 46: 295-311.
- Desai, S. and Acs, Z. 2007. A theory of destructive entrepreneurship. *Jena Economic Research Papers*, 0085, 43 pp.
- Drucker P. 1985. *Innovation and Entrepreneurship: Practices and Principles*. Harper, New York.
- Edelhertz, H. 1970. The nature, impact and prosecution of white-collar crime. Washington DC: US Department of Justice: 19-20.
- Elliot, R. 2010. Examining the relationship between personality characteristics and unethical behaviours resulting in economic crime. *Ethical Human Psychology and Psychiatry* 12: 269-276.
- Faragó, K., Orhidea, K. and Boros, J. 2008. Risk-taking in entrepreneurs, compared to criminals and students: the role of uncertainty and stakes. *The Journal of Socio-Economics* 37: 2231-2241.
- Finch, J. 1987. The vignette technique in survey research. *Sociology* 21: 105-114.

- Friedrichs, D. 2010. *Trusted Criminals: White Collar Crime in Contemporary Society*, 4th ed., Wadsworth Cengage Learning, Belmont.
- Geis, G. (eds.). 1968. *White-Collar Criminal: The Offender in Business and the Professions*. Aldine Transaction, New Brunswick.
- Gibb, A. 2000. SME policy, academic research and the growth of ignorance: mythical concepts, myths, assumptions, rituals and confusions. *International Small Business Journal* 18: 13-35.
- Guedes, I. S. e Cruz, J. 2011. Existe uma “personalidade” dos criminosos de colarinho branco?. *Ousar Integrar – Revista de Reinserção Social e Prova* 10: 47-60.
- Guerrero M., Rialp J. and Urbano D. 2008. The impact of desirability and feasibility on entrepreneurial intentions: a structural equation model. *International Entrepreneurship and Management Journal* 4: 35–50
- Hagan, F. 1994. *Introduction to Criminology; Theories, Methods, and Criminal Behaviour*. 3th ed., Nelson-Hall Publishers, Chicago.
- Kiriakidis, S. P. 2010. Prediction and explanation of young offenders' intentions to re-offend from behavioural, normative, and control beliefs. *European Psychologist* 15: 211-219.
- Kirzner, I. 1973. *Entrepreneurship and Competition*. University of Chicago Press, Chicago.
- Kobia, M. and Sikalieh, D. 2010. Towards a search for the meaning of entrepreneurship. *Journal of European Industrial Training* 34: 110-127
- Koh, H. C. 1996. Testing hypotheses of entrepreneurial characteristics: a study of Hong Kong MBA students *Journal of Managerial Psychology* 11: 12-25.
- Kolvereid L. and Isaksen E. 2006. New business start-up and subsequent entry into self-employment. *Journal of Business Venturing* 21: 866-885
- Krueger, N. 1993. The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability. *Entrepreneurship Theory and Practice* 18: 5-21.
- Krueger, N. 2009. Entrepreneurial intentions are dead: long live entrepreneurial intentions, 51-72. In Alan L. Carsrud and Malin Brannback (ed.), *Understanding the Entrepreneurial Mind: Opening the Black Box*. Springer, London.
- Krueger, N., Reilly, M. D. and Carsrud, A. L. 2000. Competing models of entrepreneurial intentions. *Journal of Business Venturing* 15: 411-432.
- Liñán, F. and Chen Y. 2009. Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice* 33:593-617

- Littunen, H. 2000. Entrepreneurship and the characteristics of the entrepreneurial personality. *International Journal of Entrepreneurial Behaviour & Research* 6: 295-309.
- Llewellyn, D. J. and Wilson, K. M. 2003. The controversial role of personality traits in entrepreneurial psychology. *Education & Training* 45: 341-345.
- McMillan, B. and Conner, M. 2003. Applying an extended version of the theory of planned behaviour to illicit drug use among students. *Journal of Applied Social Psychology* 33: 1662-1683.
- Merton, R. K. 1938. Social Structure and Anomie. *American Sociological Review* 3: 672-682.
- Miller, D. 2010. An application of the theory of planned behaviour to the proximal and distal etiology of sexual offending. *Trauma Violence Abuse* 11:113-128.
- Miner, J. B. and Raju, N. S. 2004. Risk propensity differences between managers and entrepreneurs and between low – and high-growth enterprises: a reply in a more conservative vein. *Journal of Applied Psychology* 89: 3-13.
- Nicolaou, N., Shane, S., Cherkas, L., Hunkin, J. and Spector, T. 2008. Is the tendency to engage in entrepreneurship genetic? *Management Science* 54: 167-179.
- Nicolaou, N., Shane, S., Cherkas, L., Hunkin, J., and Spector, T. 2009. Opportunity recognition and the tendency to be an entrepreneur: a bivariate genetics perspective. *Organizational Behaviour and Human Decision Processes* 110: 108-117.
- Obschonka, M., Silbereisen, R. K. and Schmitt-Rodermund, E. 2010. Entrepreneurial intention as developmental outcome. *Journal of Vocational Behaviour* 77: 63-72
- Paço, A., Ferreira, J., Raposo, M., Rodrigues, R. and Dinis, A. 2011. Behaviours and entrepreneurial intention: empirical findings about secondary students. *Journal of International Entrepreneurship* 9: 20–38.
- Parker, D., Manstead, A.S.R., Stradling, S.G., Reason, J.T. and Baxter, J.S. 1992. Intention to commit driving violations: an application of the theory of planned behaviour. *Journal of Applied Psychology* 77: 94-101.
- Ponsaers, P. and Ruggiero, V. 2002. *La Criminalite Economique et Financiere en Europe*. L'Harmattan, France.
- Ragatz, L., and Fremow, W. 2010. A critical examination of research on the psychological profiles of white-collar criminals. *Journal of Forensic Psychology Practice* 10: 373-402.



- Robinson, P. B., Stimpson, D. V., Huefner, J. C. and Hunt, H. K. 1991. An attitude approach to the prediction of entrepreneurship. *Entrepreneurship Theory and Practice* 15: 13-32.
- Sanders, M. and Weitzel, U. 2010. The allocation of entrepreneurial talent and destructive entrepreneurship. UNU-WIDER: World Institute for Development Economics Research, Working Paper n.º 2010 / 4621.
- Schumpeter, J. A. 1934. *The Theory of Economic Development*. Leipzig: Duncker and Humblot, 1911, ed. in English, Harvard University Press, Cambridge.
- Shane, S., Nicolaou, N., Cherkas, L. and Spector, T. D. 2010. Do Openness to Experience and Recognizing Opportunities Have the Same Genetic Source?. *Human Resource Management* 49: 291–303.
- Shapiro, S., 1990. Collaring the crime, not the criminal: reconsidering the concept of white-collar crime. *American Sociological Review* 55: 346-365.
- Simpson, S. S. and Piquero, N. L. 2002. Low self-control, organizational theory and corporate crime. *Law and Society Review* 36: 509-548.
- Smith, R. and Gordon, R. 2009. Understanding entrepreneurial behaviour in organized criminals. *Journal of Enterprising Communities: People and Places in the Global Economy* 3: 256-268.
- Stewart Jr., Wayne H. and Roth, P. L. 2004. Data quality affects meta-analytic conclusions: a response to Miner and Raju (2004) concerning entrepreneurial risk propensity. *Journal of Applied Psychology* 89: 14-21.
- Stewart Jr., Wayne H. and Roth, Philip L. (2001), Risk Propensity Differences Between Entrepreneurs and Managers: A Meta-Analytic Review, *Journal of Applied Psychology*, Vol. 86, No. 1, 145-153.
- Stone, T. H. and Jawahar, I. M. 2010. Predicting academic misconduct intentions and behaviour using the theory of planned behaviour and personality. *Basic and Applied Social Psychology* 32: 35–45.
- Sutherland, E. H. 1940. White-collar criminality. *American Sociological Review*, 5: 1-12, pp. 40-51. In Geis, Gilbert (eds.). 1968. *White-Collar Criminal: The Offender in Business and the Professions*, Aldine Transaction, New Brunswick.
- Sutherland, E. H. 1983. *White Collar Crime: The Uncut Version*. Yale University Press, New Haven.
- Tappan, P., 1947. Who is the Criminal?. *American Sociological Review*, 12: 96-102, pp 365-375. In Geis, Gilbert (ed.). 1968. *White-Collar Criminal: The Offender in Business and the Professions*, Aldine Transaction, New Brunswick.
- Tonoyan, V., Strohmeyer, R., Habib, M. and Perlitz, M. 2010. Corruption and entrepreneurship: how formal and informal institutions shape firm behav-

- ious in transition and mature market economies. *Entrepreneurship Theory and Practice* 34: 803 – 831.
- van Duynes, P.C. 1999. Mobsters are Human Too. In Canter, D., Alison, L. (Ed.). *Offender Profiling Series: Profiling in Policy and Practice*. Accessed at: <http://www.portill.nl/articles/Van%20Duynes/PSYCHPOL.pdf>.
- Weitzel U., Urbig D., Desai, S.; Sanders, M. and Acs, Z. 2010. The good, the bad, and the talented: entrepreneurial talent and selfish behaviour. *Journal of Economic Behaviour and Organization* 76: 64-81.
- White, R.; Thornhill, S. and Hampson, E. 2006. Entrepreneurs and evolutionary biology: the relationship between testosterone and new venture creation. *Organizational Behaviour and Human Decisions Processes*, 100: 21-34.
- Yeager, P. 2010. Understanding corporate lawbreaking: from profit seeking to law finding, pp. 25-49. In Pontell, Henry and Geis, Gilbert (ed.). *International Handbook of White-Collar and Corporate Crime*. Springer, New York.
- Zawawi, S. N. H. M., Jusoff, K., Rahman, R. A. and Idris, K. M. 2008. Behavioural intention for fraudulent reporting behaviour using cognitive theory. *Asian Social Science* 4: 43-47
- Zhang, Z. and Arvey, R. 2009. Rule breaking in adolescence and entrepreneurial status: an empirical investigation. *Journal of Business Venturing*, 24: 436-447.
- Zhao, H. and Seibert, S. E. 2006. The Big Five personality dimensions and entrepreneurial status: a meta-analytical review. *Journal of Applied Psychology* 91: 259–271.