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Introduction

The literature on the ‘unintended consequences’ of drug prohibition has been growing in recent years, ever since the landmark study of Tullis (Tullis, 1995) first put the term on the map. This thematic both offers another angle of approach for reviewing the legal regime created by the 1961, 1971 and 1988 UN drug conventions, beyond the pros and cons of prohibition itself, and also indirectly informs (although it is of course not limited to) the current, predominantly demand-focused turn towards harm reduction, an increasingly widely (although diversely) practiced set of modified treatment policies within the European context in the past decade, aimed generally at the prevention of overdoses amongst users, epidemic disease control, and the reduction of social harm (in this context see: O’Hare et al. (eds.), 1992, Erickson et al. (eds.), 1997, EU Drugs Strategy 2000-2004 and 2005-2012, Culley et al., 2012). The very fact of an increasing turn towards harm reduction in many European states has in fact often been read across as an area of ‘added value’ emerging out of the EU Drugs Strategy of 2005-2012. Addressing the ‘unintended consequences’ of prohibition of course nonetheless clearly extends beyond instituting harm reduction measures targeted at the consumption market, and here research on global commodity chains (or value chains) clearly has some additional insight to offer.

In 2008, the UNODC World Drugs Report itself listed five major unintended consequences (UCs) of the current global drug prohibition

regime, UCs repeated verbatim in numerous subsequent reports (for example Reuter & Trautmann, 2009, pp.46-48, Reuter 2009). These were:

- The creation of criminal black markets;
 - Policy displacement (the propensity of a law-enforcement approach to crowd out the public-health dimension of counter-narcotics);
 - Geographical displacement, otherwise known as the 'balloon effect'
 - Substance displacement, whereby consumers move from one drug to another depending on fluctuations in availability and price; and
 - The social exclusion and marginalisation of drug users.
- (UNODC (2008), quoted in Inkster & Comolli, (2012): 53-4)

This definition provides a starting point for further study, since the listed UCs certainly overlap with, but are by no means restricted to, areas also addressed by EU efforts aimed at both supply and demand reduction. The LINKSCH project of which this paper is a part aims to review the whole issue of UCs both from three different links in the chain-namely, how they manifest themselves along two commodity chains in the contexts of production, transit and consumption-but also from three different levels of implementation-the strategic, operational, and tactical (from inter-agency and inter-jurisdictional cooperation and conflict, down through shadow governance networks and 'negotiated prohibition', to the sub-state village, NGO and local community level). Naturally,

both time and available resources will only allow this to be done in a selective and provisional way, but hopefully it can also provide an informed stimulus for further policy debate. The LINKSCH project also proposes to do so utilizing the insights that can be drawn from two parallel literatures on both hybrid political regimes and global commodity chain (GCC) theory, applying these literatures to the study of two specific and currently geographically clearly distinct and identifiable production, trafficking and consumption chains, namely the networks Afghanistan-EU (heroin) and Morocco-EU (hashish).

The main deliverable prior to fieldwork in 2013 is an accurate state-of-the-art representation, from as wide an array of open sources as are presently available, of how these two commodity chains are currently perceived to operate in terms of levels of production, interdiction, and value mark-ups within selected countries. This paper however aims to summarise both the insights that can be drawn from the GCC literature more generally, and the *specific research questions* regarding UCs that could be read to flow from this literature. The full picture of how both these commodity chains are currently perceived to be operating will be the subject of another report, but elements of this paper, by presenting Afghanistan as an example case study, will in passing clearly also contribute to and inform that subsequent report.

Historical Overview

Global commodity chains in general date back to the first regular trans-oceanic voyages made by modern man. The discovery of highly desired commodities and addictive substances overseas played a

significant role in early forms of globalization. The trade in, respectively, precious metals and minerals (gold, silver, diamonds), alongside human slaves, luxury manufactures (silk, perfume, ceramics), and the early 'drug plagues' (incorporating coffee, alcohol, tobacco and spices as well as opium) played a major role in both the birth of modern global capitalism, and the shift towards a more globally organized consumer society (Trocki, 1999, pp.28-32). The fetishization of many of these products by consumers far above what an abstract evaluation of their net worth might imply rendered long-distance transoceanic trade in such goods profitable almost overnight. The production process of sugar or coffee, for example remain- from a technological perspective- neither more complex, nor more expensive, than that of other agricultural products. The initial inherent rarity of these commodities in European markets, conjoined with what before long became their perceived absolute indispensability, nonetheless also led such trade goods to enjoy an elevated European market price totally unrelated to the actual costs of production, transit, or labour at source. When conducting his own study of the emergence of capitalism, Marx reckoned that the Brazilian sugar and coffee plantations had contributed, in just one and a half years, more net worth to the Brazilian economy- up to 1823- than over eighty years of indigenous diamond mining, a disparity which he accredited to the greater concentration of labour for relatively less return characteristic of the latter (Marx, 1967, p.40). Even today, the average mark-up on coffee between farm gate and retail sale is estimated at 413 per cent (Wilson & Stevens, 2008, p.2).

The 'unintended consequences' of such new trading patterns-in effect, the emergence of an early form of global capitalism- were both rapid and diverse. The world became redivided along new lines, divisions determined no longer simply by geography (roads, mountains, oceans and rivers) but by the localized abundance of goods in high demand within the world market, and by the availability of local specializations best able to integrate such raw materials into an increasingly industrialized and professionalized production chain. Commodities ceased to be produced and consumed entirely locally, using predominantly handicraft techniques, but instead saw their production processes both rapidly mechanized, and increasingly integrated both vertically and horizontally within a wider value chain. The newly emerging phenomenon of a global commodity chain represented 'interorganizational networks clustered around one commodity or product, linking households, enterprises and states to one another within the world-economy' (Gereffi & Korzeniewicz, 1994, p.2). The governance of such networks also became increasingly fragmented as time went on, although imperial powers continue to vie to attempt to achieve near-monopoly dominance in certain 'strategic' markets even today (witness Anglo-American dominance of oil exploitation in the Persian Gulf during much of the twentieth century, or recent Chinese moves to acquire a near-dominance of the global mining market in Rare Earth minerals).

Amongst the many benign and not so benign unintended consequences of the emergence of such global commodity chains were the creation of new professions and new forms of work; the rise of new political actors on the international stage, such as multinational

firms, alongside new social and ethical-based rights movements (Fair Trade, Oxfam). These changes ran alongside the rise of global finance capital, spurred on by the need for freer access to credit (essential, for example, to cover the early sunk costs and inherent insurance risks of large scale shipbuilding or railroad building); and the restructuring and reorientation of individual states' whole environment and labour market around the production of certain commodities in high global demand. Brazil for example, to take again the case study that attracted Marx's early attention, evolved during the nineteenth century into the world's single largest coffee exporter, and produced five times as much as the rest of the world combined by 1906 (Topik in Baer, 2009, p.46). The emergence of such global supply chains arguably also provided capitalism as a whole with a 'spatial fix' that enabled it to maintain its overall rates of profitability; once this phenomenon had gained a firm foothold, capitalist firms themselves were then left free to geographically and politically reallocate both profit and loss, basic labour inputs and value-adding activity, laterally across a trans-continental scale, increasingly bypassing both national governments and organized labour movements by the end of the twentieth century (Harvey, 2004, Arrighi, 2002, 2007)

During the eighteenth and nineteenth centuries, drugs now formally prohibited from production except for medical purposes emerged at first as lightly regulated global commodity chains much like any other. After 1780, Warren Hastings and the British East India Company (EIC) centralized and took over the poppy cultivation market in NE India, creating a cartel that was effectively able to compel farmers to grow

poppy, restrict & control cultivation and production levels, and implement quality control measures. By 1797 this opium monopoly was under the direct management of a government agency, even as opium also remained prohibited in China, the main target market for EIC opium. By the 1820s, opium was the second largest source of EIC government revenue in India after land revenues, and carried the additional benefit of delivering large and immediate cash payments into government coffers-effectively financing the British Empire (Trocki, 1999). It also formed the largest single item of export for the first two-thirds of the nineteenth century, whilst Chinese efforts at prohibition also led to the Anglo-Chinese 'Opium Wars' of 1839-42 and 1856-60. In Indonesia by the end of the nineteenth century, the Dutch administered 1,065 opium retail outlets, which covered 15 percent of that state's colonial administration costs, while in the British colony of Malaya (Malaysia), opium sales covered 53 percent of overall administrative costs. British and Dutch pharmaceutical companies and commercial interests at the time were also transplanting coca bush cultivation to Jamaica, Sri Lanka, Malaysia, India, Indonesia and British Guyana, in order to reduce shipping times and to meet rising demand for cocaine, whilst the Dutch at the time were also the world's leading cocaine producer (Buxton, 2006, p.16).

Unlike opium, coca did not become a major export commodity until the latter part of the nineteenth century, (cocaine itself having first been chemically isolated only in 1860), but in Latin America between 1860 and 1910, two German and US-dominated commercial chains quickly linked Andean coca with global markets (Gootenberg, 2001).

During this period cough medicines, health elixirs, and commercially available medical anaesthetics made liberal use of cocaine, opium and marijuana's recognized chemical properties, and the first two drugs in particular were widely used in both Europe and North America to treat conditions as diverse as dysentery, malaria, cholera, nervous exhaustion, depression and nymphomania (Buxton, 2006, pp.14-18). In 1898 heroin, first synthesized in 1874, was for the first time commercially produced from opium, and ironically was thereafter initially legally prescribed as an effective alternate treatment for morphine dependence. By the latter part of the nineteenth century however, greater regulation of these drugs had already begun, (UNODC, 2010, pp.29-33) and the move towards complete prohibition except for medical use accelerated under consistent pressure from the United States, the leading sponsor behind both the 1909 Shanghai Conference and the 1912 International Opium Convention. The establishment by the interwar period of the League of Nations saw the first consolidated attempt to implement a global prohibition regime, and post-war efforts to further tighten and regulate the global market then culminated in the 1961 Single Convention on Narcotic Drugs, the 1971 Convention on Psychotropic Substances, and the 1988 Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances.

Global Commodity Chain Theory

The story retold above makes clear that drugs such as heroin, cocaine and marijuana, which are central subjects of the modern international prohibition regime, emerged in the late eighteenth and

nineteenth centuries as global commodity chains generated by consumer demand, much like any other (coffee, sugar, silk, diamonds etc.). Theoretical thinking around global commodity chains significantly post-dates their actual emergence as a modern economic phenomenon however. The term *commodity chain* itself was first employed in 1977 in an article by Hopkins and Wallerstein, which endeavoured to refocus attention on the global redivision of labour that had occurred within the world economy over time. This early thinking on global commodity chains was heavily influenced by world systems theory, which itself assigned analytical importance to so-called 'Kondratiev waves', or cycles of expansion and contraction within the world economy.¹ During so-called phases of economic contraction, (B-phases), the geographical scope of a commodity chain is held to reduce as the overall number of producers shrink, whilst vertical integration of the chain during such periods of time is also held to increase (firms taking up more of the links of a chain within their own organization). In pursuit of security from shrinking profit margins, holders of capital during such periods also shift their stocks from production to finance, whilst the loci of production itself also shift from higher-wage to lower-wage regions (Bair, 2009, pp.7-8, Wallerstein, 2003, pp.50-1). According to Wallerstein's own writings, the world economy as a whole has been in a B-phase of contraction since at least 1967/73 (Wallerstein, 2003, pp.46-7). Due to the difficulty of building a consensus around such assertions however, the LINKSCH project does not intend to employ Kondratiev economic

¹ Nikolai Kondrat'ev (1892-1938), Russian economist, founder of Kondrat'ev wave theory, supporter of the New Economic Policy (NEP) in the Soviet Union, tried and executed under Stalin's rule during the Great Purges.

cycle theory in its analysis of current illicit commodity chains, not least due to the difficulty of correlating illicit economies with wider trends in the licit global market. Some published work does nonetheless investigate the linkages between the two, most notably the pioneering studies of Pierre Kopp and Guilhem Fabre (Kopp, 2003, Fabre, 2002)

Global commodity chain research evolved further during the 1980s, and has today produced two further clearly identifiable schools of thought beyond those initially working within the framework of world systems theory. Gary Gereffi between 1994 and 1995 established four of the main characteristics of global commodity chains, or GCCs, namely:

- (1) An input-output structure, describing the process of transforming raw materials into final products
- (2) A territoriality, or geographical configuration
- (3) A governance structure which describes both how control is exerted and value redistributed by lead firms (or 'chain drivers')
- (4) An institutional (legal, but not only legal) context which describes the 'rules of the game'

From Gereffi's contribution emerged a school of thought that identified GCCs as a relatively *recent* historical phenomenon, one bound up with the politics of industrialisation and development, and one in turn primarily hinged on the emergence of the modern firm (Bair, 2009, p.9).

This school of thought also distinguished different dynamics between two ideal-typical governance structures: producer and buyer-driven global commodity chains (PDCCs vs. BDCCs). Car manufacturing has been held in the past for example to be a classic PDCC. These chains are typically capital intensive, with high capital and technological requirements constituting major barriers to entry, leading to domination by powerful manufacturers with a tight vertically integrated supply base. Textile manufacture is by contrast often analyzed as a BDCC, more labour-intensive, with market information, branding, product design and marketing/advertising costs the main barrier to entry. This entails far flung subcontracting arrangements managed by retailers and marketers, who generally make few of the actual products sold under their label. Later studies have further problematized this initial binary distinction, with software manufacture for example being classified as technology-driven, and individual commodity chains having more than one institutional strand within their makeup (Bair, 2009, p.20, Gibbon, 2008, pp.320-1). As, from the 1980s onwards, policies of structural adjustment implemented by the IMF placed increasing pressure on developing countries to abandon state-centric import substitution strategies in favour of export orientated industrialisation (EOI) instead, embracing low tariffs, open borders, greater freedom of movement for labour and capital, and extensive privatisation, the relevance of GCC theory for understanding local shifts in power in the eyes of those working within the field of development studies increased. Most obviously, China after 1980 became a key supply node for a huge variety of the West's manufactured products, leading to structural shifts both in the West (from industrial

manufacturing to the service industries) and in China itself (from rural agriculture and domestic-facing industry, to export-orientated small component and goods manufacture in the cities, with accompanying waves of demographically significant migration from the countryside to the cities).

During the early 2000s a third school, global value chain analysis (GVC) also arose (Bair, 2009, p.12). Whilst drawing on both the previous two schools of thought, GVC analysis has also been strongly influenced by transaction cost economics. This latter school of analysis emerged earlier, in the 1970s. Simply stated, it sought to analyze the conditions under which the transaction costs associated with operating on the competitive, free open market incentivized firms to internalize a greater percentage of their transaction exchanges instead. In the computer operating system market, this distinction is for example embodied by the different business strategies of Apple vs. Microsoft. Where Apple elected at an early stage upon a vertically integrated and highly brand-centric business model, with bespoke hardware *and* software design, and even closely supervised technical manufacture, Microsoft by contrast adopted a flatter, horizontal model of licensing out their software to a diverse variety of technical manufacturers and hardware suppliers.

The GVC school places emphasis on the governance issues faced by individual firms when choosing between vertical integration or market coordination, with respect to three permanent operating variables:

(1) the level of information

- (2) the complexities of transactions
- (3) the capabilities of the supply base.

I note in passing here that the earlier world systems theory approach of Kondratieff cycles, embracing a holistic view of global processes and their consequences, is self-evidently largely abandoned by this school, in favour of variables that are governance chain specific; the emphasis here is upon firm behaviour, rather than larger swings in the global economy. Chains when analysed by this form of thinking can then be further codified as:

- (1) *Modular value chains*, where suppliers are highly competent, and it is possible to codify transactions. Suppliers make products to a customer's specifications, and take full responsibility for producing certain stages in the value chain. The relationship between brand-name electronics companies like Apple and their subcontracted manufacturers is representative here.
- (2) *Relational value chains*, likely to be built where it is difficult to codify the trade relation, and characterised by complex interactions, incomplete contracts, and mutual interdependence.
- (3) *Captive value chains*, where suppliers face a high cost in switching to other customers, and so depend heavily on the lead firm. Captive suppliers are generally assumed to have limited capabilities, and lead firms often interfere strongly in their operations (Altenburg, 2007, p.503, Bair, 2009, p.21).

Global Commodity Chains, Illicit Drugs, and the Effects of Prohibition

The modern illicit drugs industry represents a series of global commodity chains governed by distinct and unique legal structures, which greatly impede both the transparent flow of information between suppliers and consumers, and also block the very formation of firms in the modern conventional sense. Illegality itself therefore has a tendency both to dramatically increase transaction costs and to favour the creation of *relational value chains*. Regulation today arose out of a long-running historical perception of the consumption of certain drugs as generating a series of socially unacceptable policy problems in modern societies. All attempts at regulation and control however are invariably also shaped by the social relations and networks generated by regulation itself, whilst many attempts to redefine a policy problem have also often occurred without considering the built-in cumulative impact that previous policy has had on the generation of current issues (Collingridge, 1992).

Criminalization quickly produced parallel governance structures, formal and informal, whilst depriving workers within the illicit sector of even the bare minimum of negotiating rights and powers that exist in licit industries. The imposition of prohibition simultaneously also introduced proxy new international governance structures (the UNDCP which became, post-1997, the UNODC, and which also incorporates the secretariat of the INCB), tasked by the international community with attempting to monitor and tackle on a global scale the production and transit of drugs now categorized as illicit. However it also promoted, by

default, the emergence and proliferation of new actors and informal parallel social, economic, and political networks, devoted to continuing to produce and supply these now illicit substances. Insurgent groups have for example periodically gained additional political and economic capital by allying, for limited tactical reasons, with producers and traffickers, as witnessed by groups as diverse as the Taliban in Afghanistan, the KMT army in NE Burma's Shan state, FARC in Colombia, Shining Path in Peru, and the LTTE (Tamil Tigers) in Sri Lanka (Felbab-Brown, 2010, Reuter et al., 2004).

The process of prohibition itself has in practice also been implemented in a variety of ways, and with varying degrees of governmental enthusiasm and energy, creating a scenario within many individual countries of 'negotiated prohibition'. The regulatory environment is therefore pluralistic in terms of the rewards and punishments it delivers, from trafficker to consumer; but the strength of the state itself to impose and implement regulation in the strictest sense has frequently also been contingent on local circumstances. Peter Lupsha has devised a scale for describing the nature of interaction between criminal groups and the state which captures the level of 'hybridity' within the system, shown below (Lupsha, 1996). In practice, many states slide between the relationships described by Lupsha as predatory and parasitic at relatively frequent intervals; only in a very small minority of cases, such as Afghanistan, has the relationship arguably at times become almost completely symbiotic.

Predatory	Parasitic	Symbiotic
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Criminal groups in antagonistic relationship with the state.	Criminal groups achieve limited engagement with the state, and are able to suborn parts of it.	Mutual dependence between criminal groups and the state.
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Prohibition once imposed internationally however, nonetheless had powerful structural consequences on the nodal points of already extant drug commodity chains, and upon the restructuring of benefits and costs for states associated with production and transit in particular. The geography of production alone faced a massive global restructuring, as measures to tighten the ban on production intensified. Licit and illicit opium production fell by some three quarters between 1906/07 and 2010, but with the biggest falls occurring prior to 1970. Global opium production had declined to a historical low by 1970, but then started to dramatically increase again. Its revival however this time also occurred on a geographically much more constrained scale, due to Turkey, Iran and China having effectively almost left the international illicit opium market. During the 1970s, production became much more densely concentrated around the so-called ‘Golden Triangle’ and ‘Golden Crescent’ regions instead, with this process reaching an extreme when, in 2007, Afghanistan alone reportedly accounted for 92 per cent of the world’s illicit opium production.

Cannabis, as still the world’s single most widely produced and consumed illicit drug alongside ATS, has witnessed the opposite production trend from opium/heroin, with new hydroponic techniques

leading to widespread cultivation in many developed countries, countries which in the past were never significant sources of supply. The relative *intensity* with which prohibition is itself implemented has no doubt also played a major role here, with long jail sentences for heroin or cocaine possession contrasting for example with traditionally very low incarceration rates (as opposed to arrest rates) for marijuana possession in most countries (Caulkins & Reuter, 2010, p.219). Whether considered in either direction however, the greater segmentation of the market as a consequence of prohibition has thus become one of the chief characteristics of the modern global illicit drug industry.

The increased risk generated by prohibition, and the associated emergence of new trafficking routes also created, in a number of states, increased levels of violence, although no single straight line of causality can be drawn between the scale of instability and the scale of illicit production. In some states, such as Colombia, the level of violence generated by networks of producers, insurgents and pro-government militias reached a scale that threatened to destabilize the state itself, even when the actual scale of earnings associated with the illicit drug industry in fact never exceeded 8 per cent of national GDP. In the case of Afghanistan by contrast, the internal insurgent threat has to date been effectively contained by international coalition forces. The scale of the internal drug economy has nonetheless grown dramatically since 2001, reaching the equivalent of 48 per cent of licit GDP in 2007 before falling back in more recent years (Inkster & Comolli, 2012, p.67).

If the scale of the drug trade and associated corruption has been widely seen as destabilising in Afghanistan however, it has also more recently been argued that the 'limited access order' generated by the Burmese state's management of the internal drug 'problem' in the 1990s had, if anything, a stabilizing effect on what had until then been a long-running civil war. In the case of Burma/Myanmar, the Burmese central government's use of the carrots and sticks created by prohibition, via the extraction of rents from the drug trade, combined with the threat of coercion and violence, generated a degree of leverage between the centre and periphery where previously arguably little room for cooption existed (Meehan, 2011). Chouvy and Laniel (2007) have likewise argued for the role of hashish production in the Rif areas of Morocco as effectively a substitute development strategy, compensating for a recent fall in income from licit agricultural raw materials, and thereby fulfilling a role as a temporary guarantor of stability via continued employment opportunities in parts of the country where otherwise social and political turbulence might prevail (Chouvy & Laniel, 2007). The hybrid political regimes produced both by prohibition, and the more general phenomenon of 'limited access orders' in much of the global south, therefore possess the capability to generate a full gamut of second and third order political and social unintended consequences, from outcomes that are clearly violently destabilizing (in parts of Latin America and West Africa) to, in practice, internal accommodations that generate a fragile form of stability and equilibrium.²

² 'Limited access orders' are here generally defined following the definition offered by Douglass North et al., and which can be understood in part as a means to analysing the difference in political makeup between

Levels of violence also vary dramatically in the 'limited access orders' of many major transit chain countries, even when taking into account that the imposition of prohibition anywhere always raises levels of violence both at the border, and within many state's inner cities. Mexico, a major transit state in the Latin American cocaine trade, has in recent years been devastated by levels of violence more often associated with intra-state civil war than with mere drug trafficking. Russia and the Central Asian states by contrast, although far from peaceful, have not suffered anything like the same levels of directly attributable violence from their positions as major transit chain countries in the Afghan heroin trade. Such an outcome arguably reflects both their more tightly enforced controls on civilian arms trafficking, different political and cultural contexts, and potentially also the radically more porous and less combative nature of local interdiction efforts, due to corruption and-in the case of Tajikistan at least- comparatively much weaker border infrastructure. Between 2003 and 2005, for example, Russia seized just over four metric tons of heroin and opium within its own borders, whilst Iran, a state-according to UNODC figures- of comparable significance in the overall Afghan trafficking chain, seized

countries with average per capita income of \$400, and upper income countries where the average per capita income is \$35,000. As North et al., (2007) state: 'The upper-income, advanced industrial countries of the world today all have market economies with open competition, competitive multi-party democratic political systems, and a secure government monopoly over violence. Such open access orders, however, are not the only norm and equilibrium type of society. The middle and low-income developing countries today, like all countries before about 1800, can be understood as limited access orders that maintain their equilibrium in a fundamentally different way. In limited access orders, the state does not have a secure monopoly on violence, and society organizes itself to control violence among the elite factions. A common feature of limited access orders is that political elites divide up control of the economy, each getting some share of the rents. Since outbreaks of violence reduce the rents, the elite factions have incentives to be peaceable most of the time. Adequate stability of the rents and thus of the social order requires limiting access and competition—hence a social order with a fundamentally different logic than the open access order.'

just over 32 metric tons (Paoli, Greenfield & Reuter, 2009, p.47). The variation in the effectiveness of interdiction and prohibition produced by such variations in hybridity clearly also impact on the 'transaction costs' of those organisations engaged in the illicit GCC concerned. This would tend to further the hypothesis that regional markets clearly exist within the overall chain which exhibit their own particular social, political and cultural specificities, carrying further clear policy implications when it comes to measuring and attempting to ameliorate the social costs of enforcing prohibition. The GVC literature therefore clearly also has insights to offer, albeit in a more limited way, to attempting to understand the opaque decision making processes of organisations involved in the production and trafficking of illicit drugs along the two illicit commodity chains that are the subject of the current study.

Illicit trafficking networks obviously also operate without the key safety net available to legal organizations of enforceable legal contracts, fixed business locations, or market analysts and international advertising arms. The two main immediate consequences of prohibition here are therefore (a) the *intended* rendering of the trade more *opaque* overall in terms of available statistics, both to outside observers, those engaged in enforcement, and direct participants, and (b) the dynamic restructuring of the production and transit arrangements related to these substances around entirely unregulated small-world, or 'dark', networks which, by organising in a manner that resembles cottage industries, thereby acquired increased resilience (Benson & Decker, 2010, Malm & Bilcher, 2011). Price-setting monopolies or cartels are largely noticeable by their absence, and studies of consumption markets also provide

provisional evidence that drug retailers are predominantly price takers rather than price setters (Paoli, 2002, Pietschmann, 2004, p.117). Kopp (2004) characterizes the system as a 'non-cartelized oligopoly', with high transaction costs prevailing and high-but not insuperable- barriers to market entry, the latter generated by risk rather than technology (Kopp, 2004, pp.27-37). Modern trafficking networks therefore predominantly appear to be informal networks of individuals which lack vertical integration, but correspondingly also demonstrate greater flexibility, resourcefulness and adaptability. This nonetheless still leaves open the question of whether such networks, as they currently operate, are PDCC or BDCC-in other words, who and where the 'chain drivers' are, where value is principally added, and where the greatest profits are reinvested. Because these two characteristics affect the whole nature of the LINKSCH study when it comes to trying to measure UCs in the current market, a pause will be made here to try to expand upon their main implications.

The Scale and Nature of the Market: Analytical Problems

The opaque nature of the international drugs trade is reflected in the literature on the exact size and impact of the industry, the diversity of which complicates tremendously any effort to draw a state of the art picture of the two commodity chains under current consideration within their wider context. Figures on the overarching scale of the international illicit drug trade vary wildly depending upon what statistics and data are included or excluded. Although money laundering for example forms a major factor in the financial flows associated with

drug trafficking, it is almost impossible to disaggregate exactly the scale of money laundering associated with the drug trade from that associated with fraud and other forms of organized crime. In 2011, the UNODC updated earlier work done in 1998 by the IMF, to estimate that an annual average of 3.6 per cent of global GDP was illicit money-laundering activity, of which money related to transnational organized crime constituted 1.5 per cent of global GDP, or \$870 billion in 2009 (UNODC, 2011a, p.5). Illicit drug trafficking itself was here then also taken to account for about half of all transnational organized crime revenues.

In the UNODC report, one key transnational sector, the global market in cocaine, was also studied, and an analysis was conducted of the socio-economic costs of drug abuse vs. the illicit income generated by drug trafficking. In every instance, the social costs of drug abuse were calculated to exceed the gains generated from illicit trafficking by a factor of two or even three to one. Pure anti-money laundering activity, as opposed to anti-trafficking activity, was also judged by this report to be strikingly ineffective; less than 1 per cent of the proceeds of crime laundered via the financial system were reportedly seized and frozen. In the particular case study that the report then made of cocaine, the gross profits of cocaine sales were estimated at \$84 billion in 2009, with the profits generated overwhelmingly made in North America and West and Central Europe. A model was then also developed to argue that of the \$53 billion generated for money laundering from this trade, slightly less than half-some \$26.2 billion-would leave the jurisdictions where the profits were generated to be

reinvested elsewhere, predominantly in the Caribbean and Central America (UNODC 2011a, p.7, 72-95).

UNODC reports on the scale of the global illicit drug trade and the profits it generates have however been challenged by a number of other studies in the past. In 2005, Francisco Thoumi underlined the 'soft' and frequently ideologically biased nature of many of the estimates made around the overall scale of the global drug trade, remarking that '[m]any times data are quoted without a reference to sources, at others it even appears that figures are spontaneously produced or invented' (Thoumi, 2005, p.186). Thoumi pointed out that- for example- National Institute of Drug Abuse data (NIDA) assumes that all drug consumption is drug abuse when calculating the economic costs of illicit drug consumption. Meanwhile the initial figure of \$500 billion ascribed in 1997 as the total value of the illicit drug industry by the UNDCP also became an embarrassment, and was correspondingly subsequently revised downwards, but with the revised figure then finally rounded up again, to \$400 billion, in the 1997 official report (Thoumi, 2005, pp.188-9). The Financial Action Task Force in 1999 then commissioned a report by Peter Reuter, which revised the estimated size of the global illicit drug market downwards a second time, but this final (unpublished) report still left a wide margin of error, by producing a new estimate of the market as worth between \$45 and \$280 billion.

Reuter himself has written eloquently on the difficulties of gaining exact estimates on the size of the global drug trade, and has underlined in particular the frequent substitution of final retail figures for

the actual figures of the trade itself (which are much smaller). The 1997 \$400 billion dollar estimate for example was, Reuter pointed out, an estimate of total retail expenditures rather than trade flows, one further distorted by using US prices. It had therefore been arrived at very approximately by (for example) multiplying the global quantity of heroin consumed by US retail prices, although the US accounts for only about 5 per cent of global heroin consumption. Prices for heroin in Europe are markedly lower than in the US, being at the time of Reuter's study approximately one tenth the US retail price; in Asian nations such as Pakistan, which have their own very substantial addict communities, the street price remains much lower again (Reuter & Greenfield, 2001, pp.160-2). In true trade terms, Reuter estimated the actual scale of the illicit drug market at a much more modest \$20-25 billion annually, more comparable to other agricultural products than industrial necessities such as oil, iron or steel.

In 2009, a report commissioned by the EU on the global drug market between 1998 and 2007, and executed by RAND Europe and the Trimbos institute, again radically revised downwards the global drug revenue estimates made by the UNODC in 2002/3, re-rating the financial value of the global cannabis market for example, via employment of a demand-side analysis, at about half the UNODC's earlier estimate. This report also estimated that smuggling accounted for approximately 10 per cent of the mark up in the global retail price of heroin or cocaine, with the vast majority of costs occurring at the stage of domestic distribution in consuming countries (Reuter & Trautmann, 2009, pp.xi-xii, Kilmer & Pacula, 2009, pp.8-22, 67-73). This

research was further underlined in the 2010 study of Caulkins & Reuter, which argued that importation (trafficking) accounted for about 12 percent of the total mark up on a gram of cocaine when comparing retail price in Chicago to the farm gate price in Colombia (Caulkins & Reuter, 2010, p.229-30).

Such analysis certainly appears to challenge earlier studies such as that by UNESCO in 1999, which had assigned carriers and traffickers 26 percent of overall profits, versus 54 percent accruing to distributors in consumer countries (UNESCO, 1999, p.6). However as Kopp (2004, p.23) amongst others has pointed out, a major methodological problem here arises from the shortage of information available regarding the actions of dealers operating at the level between wholesale and retail³. Contestation around this issue therefore remains. In a subsequent 2008 case study of the UK, the mark-up between farm gate opium and Turkish dealers was estimated at 1, 800 per cent, whilst between those dealers and the drug entering the UK, a further mark-up of 420 per cent reportedly occurred, leading to an estimated price differential between farm gate and UK street price per kilo of £450 vs. £75,750, or a mark-up of 16,800 percent (Wilson & Stevens, 2008, p.2). Following *this* model for the Afghan-UK heroin chain, the mark-ups within the consuming country are arguably comparable with the mark-ups on licit goods (coffee); it is the mark-ups in transit which are extraordinary.

³ 'Retail' here being defined as the sale of quantities of drugs running from 10 to 500 grams.

Given that the consumption market is generally held to be inelastic⁴, and that the increased risks associated with trafficking a prohibited substance are therefore often held to account for these extremely high mark-ups -itself one of the largest unintended consequences of the current prohibition regime-this process clearly merits further testing and interrogation. Detailed studies of individual production 'boxes' within current illicit commodity chains, such as Afghanistan, further complicate the picture, since they highlight that local commodity prices for illicit opium and heroin are also highly dynamic, dependent on local agricultural, political and meteorological conditions. In a study published in 2006 reviewing dry opium prices in Kandahar and Nangarhar since 1997, Byrd and Jonglez highlighted considerable price volatility on a *daily* basis within Afghanistan, but also the strategic impact of such events as the 2000-01 Taliban opium cultivation ban. In Nangarhar, counter-narcotics campaigns from late 2004 to 2005 led both to greater relative rural impoverishment, and to an increase in local opium prices (Byrd & Buddenberg, 2006, pp.119-30). Further variables include the conversion rate achieved between opium and heroin, (estimated in Afghanistan at 6:1), and the tendency of downstream distributors to vary quantity and particularly purity rather than price. In general, the data available to date suggests that price shocks upstream in the Afghan commodity chain have been consistently absorbed at intermediary stages, via modifying product purity, price manipulation, and

⁴ The definition of an 'elastic' market is one where a 1 per cent increase in prices would result in a greater than 1 percent decrease in consumption (Pietschmann (2004), p.109).

adjustments in existing inventories, and therefore both relative supply and price were structurally stable downstream up until 2010.

Two economic models (developed by Jonathan P. Caulkins) currently exist to correlate price in Afghanistan to price setting behaviour in neighbouring countries-the 'additive' and the 'multiplicative' price model. If an additive price model is assumed, interventions in producer countries by external actors should be considered a waste of money. An increase of \$100 per kg of opium in Afghanistan would translate into a \$1 increase in the retail price of a gram of heroin (assuming a 10:1 kg conversion rate between opium and heroin), an increase totally insufficient to alter consumer behaviour. A multiplicative model by contrast would more than justify supply side intervention by being highly cost efficient, since a three-fold increase in the opium price in Afghanistan (say from \$50 to \$150) would be directly passed on in a three-fold increase in the retail price. Both models rely on certain fixed assumptions-in the additive model, that traffickers receive a fixed price for their services, in the multiplicative model that profit margins, reflecting risk, are unchanged. Examination of actual opium and heroin price changes in countries neighbouring Afghanistan in 2001-2003 has suggested a market which operates in reality somewhere between the two models, in the sense that prices predicted by the additive model are continuously surpassed, but prices predicted by the multiplicative model, though nearer the mark, are never reached (Pietschmann, 2004, pp.120-5). Final retail prices in Europe were also largely unaffected, despite a doubling or tripling of heroin prices in countries neighbouring Afghanistan; this was accompanied, however, by

major changes in recorded purity per gram. In the UK, heroin prices in nominal terms declined by 10 percent in 2000-01, but the changes to purity of a gram of heroin during the same period, it has been argued, were equivalent to an effective price rise of over 80 percent (Pietschmann, 2004, p.134). Whilst Skott and Jepson (2002) have argued that global demand for heroin is inelastic meanwhile, Caulkins (1995) has also argued for a degree of relative elasticity.

The opaque nature of the drug market is further reflected in the frequency of apparently non-rational market behaviour. Between 1998 and 2006, global levels of opium production were relatively stable, but large production increases that then followed in Afghanistan found no correlation, either in further globally recorded sharp price declines, or in sudden increases in consumption (flooding the market). Many analysts therefore assumed extensive stockpiling of this output to have taken place instead, in both Afghanistan *and* Central Asia. Earlier stockpiling activity for example is accredited with having cushioned the market effects of the Taliban cultivation ban of 2001 (Lewis, 2010, Paoli, Greenfield & Reuter, 2009, pp.57, 85). Drug seizures in both Russia and Central Asia meanwhile also appear to have declined in inverse proportion to the actual quantities trafficked, again suggestive of a trend of turning either opium or processed heroin into a longer-term investment asset. However the opaque nature of the market again renders the exact scale of this phenomenon a source of some dispute. The stockpiling argument might initially appear to have relevance to the recent 2010-12 heroin 'drought' reported in many parts of Europe (2010 data shown below taken from Hallam), which could at first glance be

interpreted to have occurred for strategic reasons (restraining supply to raise the street price).

Country	Situation report	Data Source
Albania	Shortages, at time severe. Prices more or less stable, but quality very low.	Aksion Plus (NGO)
Denmark	Mixed reports, but no severe shortage. Shortage of Afghan (brown) and total lack of South East Asian (white) heroin in June/July 2010, but supplies have since resumed. Decreased purity in street heroin over past year or more.	Danish Street Lawyers & Danish Drug Users' Union
Eire	Severe shortages, price increases and decreases in purity.	Online drug users' forums, News media.
France	No firm reports of shortages, but some suggestions of disruption at street level markets. Mixed indications.	Online drug users' forums and Swiss Federal Office of Police FEDPOL.
Germany	Mixed reports. No shortage reported in Berlin. North-Rhine-Westphalia region reported increased prices and poor quality 6 months ago, but heroin flow has since resumed.	AZKEPT (NGO)
Italy	Shortages, at time severe, particularly in Northern Italy but affecting much of the country, with the exception of Naples. Purity greatly reduced.	Drug treatment services
Netherlands	Mixed reports, but shortages and price increases reported in Amsterdam over last 6 months.	Drug consumption room, Amsterdam
Russian Federation	Shortages, at times severe, across much of the country and worsening through 2010. Reduction in purity, increases in prices. Major transitions to use of alternative drugs by users.	Andrey Rylkov Foundation for Health and Social Justice, Moscow (NGO)
Serbia	Shortages, at times severe, since March 2010. Reduced quality, (from an already low base of >5%).	VEZA (NGO)
Slovenia	Shortages, at times severe. Reduced quality, increased prices (doubled).	STIGMA (NGO)
Sweden	No shortage reported, both Afghan (brown) and South East Asian (white) "very easy" to obtain.	Swedish Drug Users' Union
Switzerland	Shortages, at times severe, in Northern, Western & Eastern cantons. Increased prices, decreased purity.	Federal Office of Police (FEDPOL)
United Kingdom	Shortages, sometimes severe, reported since September 2010. Steep decline in purity followed by increases in price. The shortage has affected the whole of the UK.	Drug testing services, Metropolitan Police, drug user groups & online forums, treatment services.

Although this on the surface could be interpreted as an effort to rig the market to release stockpiled inventories at an increased price, this (geographically uneven) drop in supply has been attributed by others to a recent round of severe Afghan crop blight, to intensified

conflict in southern Afghanistan and the accompanying disruption of local logistical networks, and to more effective intelligence cooperation and interdiction, particularly in targeting the Turkish transport mafias involved (Hallam, 2011). The recent EMCDDA trendspotter report also highlighted the possible role of record seizures of heroin precursor chemicals in Europe in 2008-9, alongside the factor of recent flooding in Pakistan (EMCDDA, 2011, p.5) The displacement of addicts onto more adulterated forms of heroin meanwhile also carries the unintended consequence of an increase in mortality (death through overdoses) when purer forms of heroin again re-enter the marketplace.

At the same time, longer term studies suggest recent shifts to be historically somewhat of an anomaly. During an era of increased law enforcement focus on interdiction and supply-side eradication, with exponential increases in rates of incarceration, the European and North American purity-adjusted street price for heroin and cocaine in practice, at least between the start of the 1980s and 2010, fell sharply (Caulkins & Reuter, 2010). This also occurred against a backdrop of a stable overall consumer market and increased seizures; between 1998 and 2009 for example, seizures of cocaine, heroin, morphine and cannabis almost doubled (UNODC, 2011, p.15). A rational market model would assume that increased pressure and shipment seizures would lead to a spike in street prices, as demand outstripped supply. Previous studies of global opium production though, looking at trends between 1996 and 2003, have highlighted that production has consistently exceeded both consumption and interdiction combined (Paoli, Greenfield & Reuter, 2009, p.101). This suggests that, in response to

legal crackdowns, drug producers over that longer timeframe may have both engaged in deliberate overproduction as an insurance strategy, and also increased the efficiency, relative innovation, and resilience of their networks, via new networking opportunities. This has arguably led prices to fall due to economies of scale, in a manner not dissimilar to other (licit) industries. This could certainly be argued to have occurred in both production and trafficking, where trafficking networks from Latin America for example have both multiplied and geographically diversified, (reducing the impact of losing individual nodes-for example the loss of particular airfields- in the chain). Producers on the ground have also made efforts to increase the physical resilience of their crops, as well as (in the case of Afghanistan) cross-cultivating with food crops to present greater challenges to crop spraying.

In addition to the role played by wider geopolitical events, such as the collapse of the Soviet Union and the explosion of new drug markets in Russia and Eastern Europe after 1989-91, which have more than offset modest drops in demand elsewhere, increasingly stringent enforcement may also have led to the entry of new actors into the market, incentivized by the increased profits that accompany increased risk, as well as a displacement of networks in a number of consumer markets. Between the early 1980s and mid-1990s for example, thanks to the innovation of crack (a cheaper variation of freebase), cocaine in both America and Western Europe socially transitioned from being solely the province of bankers and rock stars alone to becoming a readily available ghetto drug (Caulkins & MacCoun, 2003, p.438). The opaque nature of the market however again renders such analysis necessarily

speculative. It also however underlines that drug trafficking networks themselves, which are of necessity characterized by small world networks and poor strategic information flows, will clearly *not* respond to external interventions, increased transaction costs, and legislative signalling in the manner that rational actor or GVC economic models might typically predict (Caulkins & MacCoun, 2003).

Case Study: Afghan heroin as a GCC

The two main commodity chains considered in the current study are the chains Afghanistan-EU and North Africa-EU, in terms of heroin and hashish respectively. An extremely preliminary outline of Afghan chain dynamics will be offered here. The scale of local opium production is a function at least in part of the nexus between regional geopolitics and Afghan economic conditions. With some of the lowest indicators of human development from a global perspective, Afghanistan is one of the poorest countries in the world. Annual domestic revenue of the Afghan state is only around 5 percent of licit GDP, and in 2010 Afghanistan was judged the second most corrupt country in the world (UNODC 2010). Afghanistan has been a source of opium production for many decades, but the scale of opium cultivation there exploded during the 1980s as a side effect of the conflict dynamics generated by the Soviet intervention (1979-89). Following a brief but severe crackdown on cultivation by the Taliban in 2000-2001, it then expanded even more dramatically up until 2008.

Opium Production in Afghanistan, 1932-2006 (metric tonnes)

(Singh, 2007, p.13)

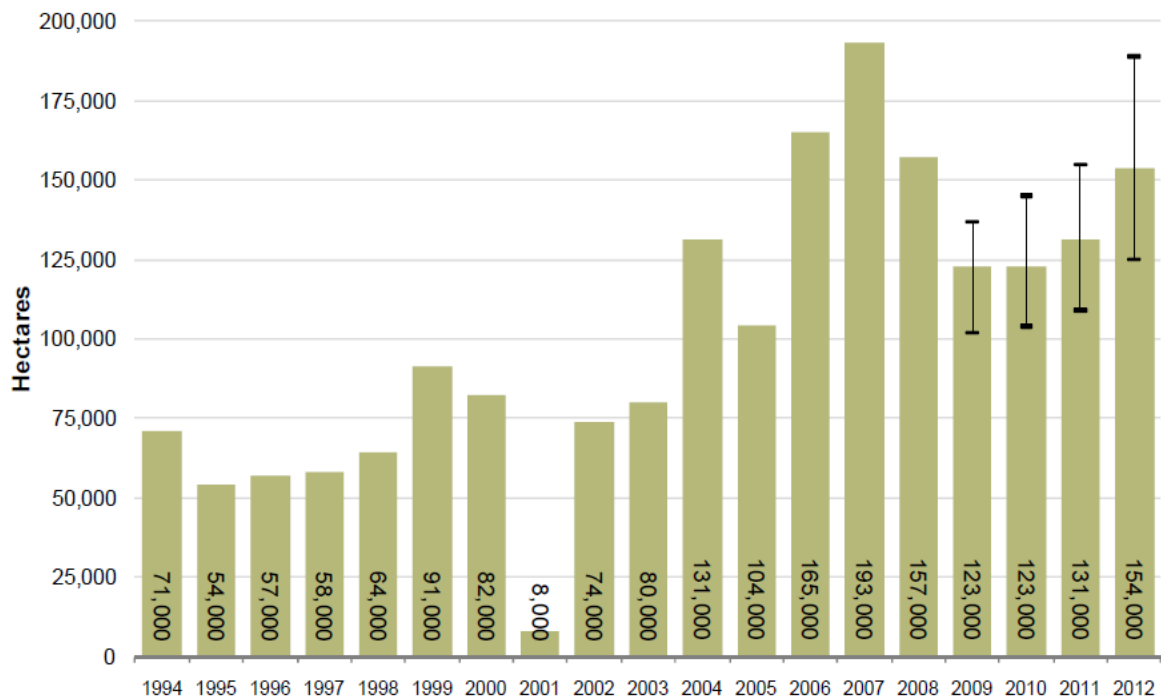
1932	1956	1989	1994	1999	2002	2004	2005	2006
75	12	800	3,416	4,565	3,400	4,200	4,100	6,100

Potential Opium Production in Afghanistan, 2006-2012 (metric tonnes)

(UNODC Annual Opium Survey, 2007-2012)

2007	2008	2009	2010	2011	2012
8,200	7,700	6,900	3,600	5,800	3,700

Figure 1: Opium cultivation in Afghanistan, 1994-2012 (Hectares (ha))



Source: UNODC (1994-2002), MCN/UNODC (since 2003). The high-low lines represent the upper and lower bounds of the 95% confidence interval.

The explosion in Afghan opium production from 1980 onwards was accompanied by the development of extensive trafficking routes running through Iran and Pakistan; since the collapse of the Soviet Union in 1991, a 'northern route' running through Central Asia and Russia to Europe has emerged as well. Despite the explosion in the scale of Afghan opium production, it predominantly remains a rural, decentralized phenomenon, with larger traders only engaging in purchase, rather than closer mentoring or direction of cultivation. Greater vertical integration of organized crime in Afghanistan is nonetheless occurring, with pyramids of protection and patronage emerging in a restructured form post-2001 (Byrd & Buddenberg, 2006, p.200).

Key traffickers within Afghanistan have typically formed significant political connections at both the central and local level, and often enjoy effective immunity from local law enforcement. The production of heroin within Afghanistan itself has also become more organized in recent years, via the import of large quantities of chemical precursors and the establishment of local drug labs-during the 1980s, the majority of these labs existed in Pakistan. Heroin, morphine and raw opium are then trafficked out of Afghanistan via three main routes-north through Central Asia, west through Iran, and south and east through India and Pakistan.

Estimates regarding the ratio of trafficking between these three routes have altered continuously over time. During the 1980s, Pakistan was commonly felt to be the main trafficking corridor, with a drug trafficking route south overlapping with an American and Saudi-funded

arms trafficking route north from Karachi; indeed it is commonly believed that the two commodities in fact travelled on the same trucks. Pakistan itself was at the time a significant site of both heroin production and consumption; in 1979 Pakistani opium production stood at 300 tonnes versus Afghanistan's 270 tonnes, and Pakistan's numbers of registered heroin addicts in the early 1980s exploded from 5,000 users in 1980 to over 1.3 million by the middle of the decade (Singh, 2007, p.174, Haq, 1996, p.954). After 1989, the significance of the northern and western trafficking routes for Afghan opium steadily grew, whilst domestic opium cultivation in Pakistan itself had already substantially declined. After 2001 and Western military intervention, the significance of opiate trafficking *within* Afghanistan also increased. In 2003, the UN estimated that 65 percent of Afghan opiates passed through Central Asia, but this was subsequently revised radically downwards to 15 percent, then revised *up* again in 2010 to 25 percent. The Iranian route by contrast is held in the latest UNODC report to account for 35 percent of the Afghan heroin traffic, and Pakistan for the remaining 40 percent. (Chouvy, 2003, p.31, Chouvy, 2009, p.87, UNODC, 2012, p.9.). Trafficking through Turkmenistan also appears to feed the 'Balkan route' via Turkey, rather than the Russian 'Northern Route'. Trafficking by all routes remains in the main dominated by the use of existing road networks, but with a growing role played by rail in Central Asia. Turkey in general continues to remain a recognized hub point in current trafficking routes, beyond which opiates are trafficked into Europe via the 'Balkan route'. For the

sake of brevity, the trafficking phenomenon here will be considered with regard to two states in particular-Russia and Turkey.

Eck and Gersh (2000) analyzed drug trafficking organizations according to two models: concentrated industry and cottage industry. The concentrated industry model posits that drug trafficking from production to retail is controlled by a few highly organized, oligopolistic, and hierarchically structured groups. The cottage industry model asserts that drug trafficking, from production to retail, is managed by a large number of small groups and individuals, which form and break-up easily. There is little empirical research to show that Turkish drug trafficking organizations fit either the concentrated model or the cottage model. Nonetheless, a 2007 Turkish drug report (Ünal, 2009, p.31) showed that most of the drug trafficked from Turkey is organized by a few family-based criminal groups. These groups may be classified by their role in trafficking. Some of them specialize in bringing drugs from Asia to Turkey, some of them specialize in converting morphine-based drugs to heroin, some of them are experts at transporting the drugs, and others distribute drugs to Western Europe. In 1995, the Turkish National Policy began a very complex network analysis, which included every drug trafficking case in the past 10 years. Those cases were analyzed by modern network-analysis software, and the analysis is updated regularly. The network analysis showed that most heroin traffickers in Turkey are somewhat related to 40 main groups, and that there is no clear distinction between trafficking groups. According to this analysis, there are three main types of traffickers in Turkey:

- (a) traffickers who are members of family-based organizations and work under an informal hierarchy,
- (b) traffickers who are free of any large and structured organization, and
- (c) traffickers who work for or pay taxes to terrorist organizations (Ünal, 2009, p.32).

This categorization loosely fits the typology found by Natarajan and Belanger (1998). Domestic heroin trafficking in Turkey starts from two regions (i.e. Hakkari and Van) on the Iranian border, and most of the traffickers head mainly to Istanbul or, rarely, to southern Turkey (i.e. Gaziantep, Hatay, Adana, and Mersin) where traffickers arrange for exportation or sale of the heroin to other traffickers. Most of the heroin seizures in eastern and central Turkey are intercepted between the Iranian border region and these two western destinations. The most recent research in this field suggests that the common vehicle type used is passenger car; TIR trucks are almost never used in domestic trafficking (Ünal, 2009, pp.126-8). Other vehicles types employed are lorries and vans. Interdiction of drug traffickers in Turkey is a responsibility divided between the TNP (Turkish National Police) and Jandarma, with the TNP operating in the cities whilst the Jandarma operates in the countryside.

Trafficking in Russia and Central Asia has been the subject of relatively fewer detailed open source studies, but the majority of evidence currently available again points, in Russia at least, to the

existence of a small scale, strategically disconnected, and diverse 'cottage industry' model of drug trafficking, with a significant ethnocentric component. The review conducted by Paoli in 2001 of court cases in Russia related to organized crime and drug trafficking identified the majority of such cases to be directed against small groups of individuals of as few as four people at a time. The economic crisis affecting large numbers of Russian citizens in the 1990s produced a spontaneous, bottom-up level of participation by many ordinary citizens in obtaining and selling illicit drugs, even as more networked 'conflict entrepreneurs' also participated in, and co-managed, a mid-level restructuring of previously state-held asset privatization. The latter process of course also saw organized crime elements move into many 'legitimate' business sectors for money laundering purposes. At the same time, specific ethnic groups-Chechens, Roma, Tajiks- are consistently identified in Russian reports as being particularly involved in drug trafficking. These reports also mirror to a significant degree a wider level of social stigmatization towards these groups across Russian society as a whole (Paoli, 2001).

Drug trafficking and drug consumption have also risen to the top of the Russian state's official security agenda, despite figures regarding the number of Russian addicts and consumers remaining remarkably contested and imprecise. Open source estimates quote the current number of Russian heroin addicts, for example, as ranging at anything between 2 to 5 million individuals, depending on whether drug addiction in general or heroin use in particular (the two figures being often confused) is being referenced (Walker, 2009, Inkster & Comolli, 2012,

p.125, Golunov, 2007, p.337). Even accepting the lower-end official government estimate of some 2.5 million heroin addicts however, the UNODC in 2009 estimated that Russia in 2008 accounted for 21 percent of world heroin consumption, vs. a European market share (Europe being here taken to exclude Russia and Turkey) of 26 percent (UNODC, 2009, p.11). By this estimate, Russia comes second only to Europe in terms of global heroin consumption, with the per capita ratio of addicts in Russia being even higher than in Europe, and with Russia also, when considered on a state-to-state basis, coming first in the world in terms of total heroin consumption.

Since its establishment in 2003, the counter-narcotics arm of the Russian government, the FSKN, has struggled to coordinate a range of interventions aimed at reducing the harms caused to Russian state interests and national security by both drug trafficking and drug consumption. Criticism in particular is frequently levelled at its efforts in the field of demand reduction, treatment, and rehabilitation. The FSKN itself has, by statute, a maximum establishment of around 40,000 personnel, four times the size of its nearest American equivalent, the DEA, and also differs from that organization, in that it answers directly to the Russian President rather than the Ministry of Justice. In 2007 the State Anti-Drug Committee (GAK) was created in part to address concerns that the approach of the FSKN up until that date had been unbalanced and excessively repressive, with the State Anti-Drug Committee intended to better co-ordinate action between the law enforcement agencies and the respective ministries responsible for health, education, and social development (Renz, 2011, pp.60-1, 65-66).

The preliminary outline given here naturally raises as many questions as it offers answers about the nature and dynamics of the Afghan commodity chain as it currently operates. Some preliminary research questions follow below.

Research questions

Unintended Consequences and GCC (1): Rise in violence

The creation of GCC black markets in illicit drugs, which then come to automatically constitute large-scale 'lootable resources' given their unregulated nature, has clearly played a significant role in the generation and perpetuation of both 'limited access orders' (Afghanistan, Burma, many Central Asian states), and in sharp increases in the general level of intrastate violence in many territories (Afghanistan, Mexico, Colombia). This general rise of violence in both production and transit trade countries is clearly unevenly distributed however, with some states seemingly disproportionately affected (Mexico), whilst in other states the emergence of parasitic or symbiotic relationships has if anything arguably had a somewhat stabilising effect for the overall state-building project (Burma, Afghanistan). Both GCC and HPR theory therefore offer useful analytical perspectives to examine the phenomenon of 'managed prohibition' in the countries currently under study, which, when following the chain, also represent a transition from 'limited access' to 'open access' orders. Afghanistan and Morocco, despite both being 'limited access' orders, are in many ways polar opposites in terms of general levels of societal violence related to management of

the drugs trade. Useful research questions that might flow from this are:

- (a) To what degree might general levels of violence be related to the relative status of the drug as a geopolitically scarce 'lootable resource'? With marijuana production occurring globally on a prolific scale, including an increasing quantity of such production *within* the EU, whilst opium and heroin by contrast are manufactured in only a few states, the political and conflict dynamics of the two commodities in production countries may simply be a function of their very different global production patterns.
- (b) The relative mark-ups in value when comparing opium and marijuana likewise merit scrutiny when considering the very different levels of social violence and associated perceptual risk between the two commodity chains concerned. Violence however is clearly also related to perceived structural vulnerability. It would be useful in particular to try to gain some deeper understanding of whether the networks involved in marijuana really socio-economically correlate with those involved in heroin, perhaps utilizing police reports along the lines of Malm & Bichler's (2011) study of 'small world networks' of collaborating criminals.
- (c) Variations in legality and health classification between the two commodities clearly also carry implications in levels of perceived risk and profit alongside perceptible levels of societal

stress, with marijuana having become socially acceptable in contexts where heroin is still formally condemned.

- (d) There may also be a strong argument to state that the 'balloon effect' is proportionately a much weaker phenomenon in relation to marijuana than it is to opium, something to be explored.
- (e) The dynamics in transit countries also need to be further explored, not least in terms of understanding why Russia, Turkey or the Central Asian states (for example) are not Mexico, despite the profit margins/street price mark ups of heroin being comparable to cocaine.

Unintended Consequences and GCC (2): Rise in mark-ups and the presumption of an 'inelastic market'.

The main effort of supply-side focused CN policies during the past thirty to forty years-to so disrupt supplies that the street price rises precipitously, leading the addict community to shrink proportionately-has clearly been a failure. This raises questions both over the presumption that the consumer market is essentially 'mature' and inelastic, and over the presumption that the illicit drug market corresponds to a rational actor economic model. A significant GCC orientated question would be to ask where the mark-ups in value occur along the nodes between production and consumption, and to what degree they are in reality dynamic. Both Byrd and Buddenberg (2006) and Pietschmann (2004) highlighted price setting and price manipulation in the 'middle stage' countries as a major explanatory factor in how the illicit drug market

currently operates in terms of cushioning upstream price volatility in Afghanistan, and also as an area meriting further research. Both Russia and Kazakhstan for example have expanding consumption markets in addition to being major transit chain countries. It would be useful to also try to nail down the factors behind the 'heroin drought' of 2010, which *did* cause street prices to spike, and which clearly needs to be categorized either as a coincidental non-trend anomaly, produced by a whole range of essentially unrelated factors, or as the product of conscious interagency policy which merits inculcation and further perpetuation.

Unintended Consequences and GCC (3) The emergence of new networks, and the stigmatization of social, religious and ethnic groups.

Lupsha offers a typology of state/organized crime interactions which it may prove worthwhile attempting to map against the two commodity chains concerned, in the context of course of the general concept of 'negotiated prohibition' and HPRs. Turkey, Kazakhstan and Russia offer interesting parallel case studies of countries that sit on the middle level between being 'limited access' and 'open access' orders, and that could be read to correspond to the definition of 'mature' limited access orders given by North and his co-authors. These orders however are also stabilized very often on the basis of excluding or stigmatizing certain social and ethnic groups, and this stigmatization is also woven in many instances into the rhetoric of the illicit drug prohibition regime in each country. Stigmatization produces, in response, coping strategies and behaviours which perpetuate community isolation and conflict

dynamics. This raises an interesting range of potential UC-related research questions from the perspective of both human rights and civil society organisations in these countries-how do communities stigmatized by government narratives self-organize, and to what degree does an informal feedback loop exist between the central government and these communities? To what degree have the conflict dynamics encapsulated in this relationship become both effectively contained (the 'stable' instability of 'frozen' conflicts) and self-perpetuating? A related question is of course the extent to which the overarching regime of prohibition itself is in fact stabilising or destabilising these dynamics at the country level (see below).

Unintended Consequences and GCC (4): 'Resource curse' or source of stabilization and local capital formation?

It is generally accepted that illicit drugs generate far more value outside producing countries than in them. The degree to which illicit drug markets are stabilizing or destabilizing, and the potential for state destabilization to be a major *unintended* consequence of more effective prohibition, nonetheless remains contested, with both Burma and Afghanistan forming examples of states where a recent boom in illicit drug production has historically accompanied state-building (increasing governmental capacity) rather than state collapse (see Goodhand, 2008). Clearly if the current prohibition regime in certain countries in practice produces perverse, unintended *stabilizing* effects within otherwise potentially highly unstable limited access order systems (Burma, Afghanistan, North Africa)-by producing an array of rent-gathering actors

and shadow networks that are in practice in balance with each other- this raises questions about the potential unintended consequences of any future alteration in the current focus of prohibition, *whether towards complete eradication or the other extreme of decriminalization/legalization*. The following research questions therefore merit being asked: is prohibition in some states producing the unintended consequence of actually generating a greater degree of relative stability/internal balancing where otherwise such stability would not exist? Given that the implementation of prohibition in certain production countries also requires substantial external resourcing (the ANA & ANP in Afghanistan, or the alternative example of Colombia), resourcing which will require fluctuate and in all likelihood decline over the medium to longer term, to what degree is prohibition in these states perpetuating untenable 'rentier states' in the medium to longer term, and what could be done about it?

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