

# The Journal of Economics and Politics

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Manuscript 1086

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## Economic Analysis of the Cocaine Industry

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During the last 20 years the illicit trade of cocaine has skyrocketed from a simple cottage industry into a giant international enterprise. The annual value of cocaine retail sales have surpassed those of the largest Fortune 500 companies and are hovering close to \$100 billion per year. Cocaine imports have more than doubled since 1981, and the drug is being sold to increasing numbers of users at steadily declining prices. Once the drug of the wealthy, stereotypically consumed by members of the upper-middle class, cocaine network has now reached every geographic area of our country and all strata in the society.<sup>1</sup> Continuously falling price has helped it to become the most popular illegal drug in America today. By the middle of 1980s around 22 million Americans have used cocaine, and every day 5,000 new individuals have been trying it for the first time, while consumption of all other illicit substances has either leveled off or even decreased.<sup>2</sup> As cocaine use has spread from the suburbs and high-rise office buildings to the ghettos and streets of central cities, cocaine and crime have become synonymous.<sup>3</sup> Also, in the international political scene its production and trafficking now ranks with illegal immigration and Communist insurgency as priority questions in U.S.-Latin American relations.<sup>4</sup> But with all due apologies to the problems of domestic cocaine epidemic and growing international political complexities with the narcotics producing countries, this paper will primarily concentrate upon the economic analysis of the cocaine trade. The driving force in the cocaine industry, like any legitimate industry, is the profit motive. Illegality of the industry makes participation in it risky, and high risk is the fountainhead of the enormous profits. As the present U.S. markets are becoming increasingly saturated, one can classify cocaine trade as a mature industry, with, most probably, steadily narrowing profit margins. Also, cocaine trade, like all other business activity in the free world, is extremely sensitive to forces of supply and demand. A considerable amount of insight about the nature of this illegal industry will be derived with the help of this simple analytical tool. The bulk of the paper is devoted to the analysis of the industry's vertical structure. The extrapolated value added at each stage of cocaine processing allows one to draw some conclusions not only about the degree of competitiveness but also about the nature of some of the production processes. But because of the industry's illegality, data are scarce and undisputed information is frequently difficult to come by. Inevitably, some conclusions drawn in this paper rest on more tenuous foundations than others. The essay would be incomplete without some suggestions on how the growth trend of this highly complex "industrial conglomerate" may be reversed. The latter topic will be briefly addressed in the conclusionary part of the paper.

### Supply and Demand for Cocaine

If cocaine were a legitimate commodity and the industry producing it were perfectly competitive in nature, then the intersection of supply and demand, just like for any other commodity, would determine its market price. What makes the cocaine industry unusual

is its illegitimacy which makes the nature of the determinants defining the position of supply and demand functions in price-quantity space different from that of a legal good. According to Wisotsky, black market supply and demand curves possess certain qualities that cannot be found in their legal counterparts<sup>5</sup> and are worth examining in how they may relate to cocaine. There are two predominant factors that have an abating influence upon the demand for cocaine. Prohibitionist laws exert a negative effect upon demand predominantly because of possibilities of arrest. Even though every year about 300 to 400 million cocaine transactions take place, there are only several thousand arrests.<sup>6</sup> Police agencies concentrate their efforts mostly on trafficking and dealing activities rather than on consumption aspects of the drug. Although the probability of arrest for use of cocaine is small, once caught the punishment is relatively severe even for possession of small quantities of this illegal substance. In addition to fear of arrest and prosecution, morality also exerts an influence upon demand for cocaine. Some refrain from consumption of illegal substances because of personal moral standards which may be rooted in either religious convictions or simple respect of the law. Others experience pleasure in defying the law and find prohibition an infringement upon their individual freedom. However, it would be safe to conclude that the net effect of morality and obedience of the law, just like fear of arrest, tend to reduce the aggregate demand to a level that is lower than it would be under free market conditions. The law exerts also a noticeable amount of influence upon the supply of cocaine. One minor cost for the suppliers is to be stigmatized by the prevailing American social attitudes as merchants of a substance that is not only hazardous to one's health, but in some cases, even lethal. Even though it is an intangible cost, people who deal in cocaine must monetize it in order to disvalue such a reproach on their reputation. The more cognizant is the society about the "evils" of cocaine, the more profound is the stigma, and the greater will be the impetus for the supply to shift to the left. Since legal penalties for distributors are more severe than for the buyers, consequences of arrest for the former are higher than for the latter. Also, unlike users, sellers are popular targets of investigations and are subjected to greater risks. Consequently, in order for a seller to survive in the business, he is forced to incur a number of transactional costs whose origins may be traced either to the criminal justice system or the peculiar nature of competition inherent in the trade of cocaine. In the black market literature such transaction costs are referred to as criminalization tax and deserve closer examination.<sup>7</sup> Avoidance of arrest and conviction requires the cost of concealment and evasion strategies, legal fees and bond costs, loss of inventory and private property seizures, and, frequently, the cost of bribing public officials. Since competition in an illegal industry does not manifest itself in product quality and price cuts only, there are additional costs of forceful inventory seizures by rival groups or corrupt police officers and robberies by individuals from outside and inside the industry. In the violent trade of cocaine the possibility of death is another real transaction cost that is reflected in the supply of cocaine. Even though risk calculations vary among rational profit-seeking industry participants and usually put a high risk premium on transaction costs of such nature, in the cocaine business all risks are monetized and included in the price of the final product. According to micro economic theory, all personal risks are considered to be implicit costs and become part of the cocaine entrepreneur's profit. This criminalization tax is the minimum amount of money needed to cancel the risk of operating

outside the law and persuade the dealer to view the operation as profitable. Judging from the difference in prices of a kilo of cocaine in South America and Miami, the criminalization tax must be around 71 to 80 percent of all costs.<sup>8</sup> Such high costs reduce the supply of cocaine, and, by restricting the quantity sold, make cocaine one of the most expensive drugs in the history of mankind.

### The Increasing Supply

There are no accurate data on quantities of cocaine reaching U.S. markets. The National Narcotics Intelligence Consumers Committee (NNIC) and U.S. Customs provide us only with estimates that are based on extrapolation of their own separate intelligence information. It is impossible to judge which agency's results are more accurate. The NNIC forecast is structured around information obtained from satellite surveillance activity in Peru, Bolivia, and Columbia over land used for coca cultivation.<sup>9</sup> Since local consumption of coca leaves for chewing purposes and for export to worldwide markets for medical uses are the two known quantities, it is assumed that the remaining share of the harvest is for the production of illegal cocaine. Using reduction factor of 200:1 for coca leaf to coca paste and 2.5:1 for paste to cocaine hydrochloride, derivation of the annual illegal output destined to U.S. markets is readily extrapolated.<sup>10</sup> U.S. Customs methodology centers around the total annual cocaine seizures in the processing of cargo and passengers across U.S. borders. Such activity is executed without any prior tips or intelligence information and in 1985 made up over 82 percent of all the cocaine seizures, yielding 36 percent of the total cocaine seized.<sup>11</sup> The cold hit approach to interdiction is analogized by Wisotsky to a net of uniform mesh; changes in the amount of cocaine caught by the net reflect real changes in the flow of cocaine across U.S. borders.<sup>12</sup> Authorities estimate that seizures of random nature account for 10 percent of all the incoming cocaine. Judging from the average annual seizures of 49.9 pounds throughout the 1960s,<sup>13</sup> the quantity reaching U.S. markets must have been relatively small. But by the end of 1960s, cocaine seizures started to take place at a much more precipitous rate. Using the U.S. Customs estimating technique, the supply of cocaine in U.S. rose from 28,000 to 38,000 pounds from 1976<sup>14</sup> to 1981,<sup>15</sup> respectively. From 1985 to 1986 the amount smuggled in increased from 130,000 pounds to 275,000 pounds.<sup>16</sup> The seizure rate is still on a continuous upswing. Thus, given the constant size of the U.S. Customs staffing and no technical changes in seizure technique, annually increasing cocaine seizures in conjunction with the inherent random nature of cold hits suggest steadily increasing cocaine deliveries to U.S. markets. Fluctuations of cocaine retail prices as determined by supply and demand forces provide us with corroborative evidence that the supply of cocaine is on a continuous increase. Judging from the steady climbing retail prices between 1980 and 1982, demand for cocaine during that period must have been increasing at a faster rate than supply. For the next two years prices remained fairly constant and during the initial months of 1984 started its steady decline which is still continuing up to the present time.<sup>17</sup> Even though during the 1980s the demand was on a continuous rise, plummeting prices offer evidence that the supply must have been increasing at a faster rate than the demand. A kilogram, which in 1982 fetched up to \$65,000, brought as little as \$30,000 in 1985, and in 1987 Miami wholesale kilo markets prices occasionally slipped even into the teens.<sup>18</sup> During the declining price period the

purity of the drug in the retail market shot up from 16 percent to 60 percent which in effect cut the real price even to a lower level. A product's price decline could also be attributed to a decrease in demand. It is doubtful that this is the case with cocaine even though a recent National Institute of Drug Abuse study of high school students shows a 1.9% drop among those who have used cocaine in the previous month.<sup>19</sup> A decrease in use by a subgroup of our society can be readily counterbalanced by increased consumption rates in other subgroups. Around 25 percent of our high school students tend to drop out. This is the subgroup of our young people that has a greater potential for drug abuse than any other group and it was not included in the survey. Cocaine abuse is becoming more intractable. During the last few years crack, a cheap but potent form of smokable cocaine, has become popular among inner-city population and its use seems to be intensifying.<sup>20</sup> According to Washington, head of a New York treatment center, in 1987 more than 50 percent of his patients are cocaine smokers, up from about 20 percent a year ago.<sup>21</sup> Such evidence suggests that the steady decline in cocaine price is attributable to a continuous rise in supply rather than decrease in demand. Since the steadily downward price trend is occurring in the face of annually increasing federal efforts to stem the flow of cocaine, the current glut of the drug suggests that its price is determined not so much by law enforcement's ability to restrict the supply as by the industry's capacity to produce ever-increasing amounts of this exotic substance.

### **Vertical View of the Production Process**

Before cocaine is loaded on airplanes or ships to various U.S. destinations, it undergoes a complicated process of production that involves the cooperation of labor and entrepreneurial activities in several South American countries. The first stage in production of cocaine hydrochloride involves cultivation of coca leaves. Long before Western societies ever heard of cocaine, coca was and still is an integral ingredient in the lives of Peruvian and Bolivian peasants and Indians.<sup>22</sup> The coca leaf has been masticated in the Andean communities since pre-Hispanic times. Today over several million peasants, located mostly in the highland areas, continue the practice of leaf chewing.<sup>23</sup> Mastification fulfills the role of an all-purpose healing drug. It is a harmless practice that in essence combines the function of coffee, tobacco, aspirin and bicarbonate of soda in their society.<sup>24</sup> Most coca cultivation 27 years ago was for such local consumption purposes. But with the rise of cocaine epidemic in U.S., it is now one of the few South American agricultural products whose role takes place in cash terms and allows the sellers to realize a substantial profit. Between 1986 and 1987 the production of coca rose by more than 10 percent in the three traditional coca-growing countries. Coca output in metric tons for Peru, Bolivia and Columbia have reached 121,000, 67,000 and 23,000 levels, respectively.<sup>25</sup> A Bolivian farmer who cultivates a little over a hectare (2.47 acres) of coca leaf can earn the equivalent of several thousand to \$10,000 a year.<sup>26</sup> In relation to the Bolivian peasant national family income average of \$160 per annum, that is a significant source of additional revenue.<sup>27</sup> The rapidly rising price of coca effectively maintains the purchasing power of peasant households. This is not the case for other cash crops whose terms of trade have worsened during the past 15 years and especially during the hyperinflation of recent years.<sup>28</sup> At the 1985 prices of \$7.42 per kilo of dry leaves (see Table 1), it makes sense in Peruvian and Bolivian

growing regions for every peasant family to cultivate at least a small plot of coca bushes. In those countries small amounts of coca production is legal.<sup>29</sup> But low and fluctuating prices of cash crops in the world markets have influenced the peasants to grow coca beyond domestic needs. Consequently, it is not uncommon for farmers to cultivate secret plots which are capable of producing at least 30 arrobas (348.8 kg) per year.<sup>30</sup> Peruvian and Bolivian growers are responsible for 90 percent of the world's coca output.<sup>31</sup> On the eastern slopes of the Andes coca is a ubiquitous plant and entering into coca farming is easy. Since there is a huge number of mostly small growers who sell the crop to large numbers of coca paste producers, coca cultivation is close to a purely competitive activity, and the price is essentially determined by forces of supply and demand. The second stage of production involves the manufacture of coca paste.

Paste producing pits, operated by larger growers or independent entrepreneurs, are located right in the coca growing regions, because paste production is a weight-loss activity. Most pits have capacities to handle from 30 arrobas (348.8 kg) to 200 arrobas (2,772 kg) of leaves. Since 30 arrobas is less than the average yield from one hectare per picking, the required quantities to start up a batch of paste can be collected with little difficulty.<sup>32</sup> Derivation of paste is a labor intensive activity that requires no basic skills. There is also a need for several locally or regionally available chemical ingredients, such as, kerosene, limestone and sulfuric acid. The integral part of the paste derivation process is performed by pisadores (leaf stompers) who work 12 hour night shifts stomping on leaves soaked in an acid solution in order to separate cocaine from the leaves. Pisadores are usually unemployed young male peasants or landless migrants who receive wages that are 8 to 12 times higher than those received from tending legal crops.<sup>33</sup> In Bolivia's upper Cochabamba Valley even local public employees, such as schoolteachers, have made a massive entry into the lucrative coca paste-making business. One Bolivian police report indicated that 70 percent of the schoolteachers in the region, whose monthly salaries in 1984 average \$15 to \$20, were working in cocaine-oriented activities.<sup>34</sup> Paste-making requires only rudimentary infrastructure, no electricity and no large capital investments. That technology can be readily diffused to the rural grower-producer and throughout the small and medium-sized merchant population is evidenced from the recent proliferation of paste-making both in Chapare and the upper Cochabamba Valley.<sup>35</sup> Since the process requires fixed proportions of chemicals, labor and leaves, output takes place at a constant cost rate. Given the size of pit, doubling of output requires doubling of inputs. Because of cheap labor, low chemical prices and only moderate profit rate, value-added at this stage of the industry amounts to only \$1,050 per 3.75 kg of paste. Absence of scale economies, large number of pits, easy entry, requirements of only rudimentary skills and low level of infrastructure make paste production a highly competitive activity. But pit operations are year-round activities and operators reap high incomes in relation to the national Peruvian and Bolivian standards. In any given paste-producing region, the patron (boss) makes most of the finished paste purchases. The actual transactions are made for him by corredores (runners) at a price determined by the monopsonistic market powers of the patron. The purchase price is additionally influenced by fluctuations in demand for cocaine and coca paste in international markets, bribes of local police, and distances to regional airfields.<sup>36</sup> It is not clear, whether patrones are representatives of groups that control higher stages of production or are them-

selves subjects of monopsonistic domination. It is known, however, that there is a high degree of cooperation and rapport between these middlemen and organizations controlling higher echelons of production. Finished coca paste is usually flown on light aircraft from mountain villages to Columbia for the next stage of processing.<sup>37</sup> It consists of coca paste conversion into cocaine base which is then crystallized into cocaine hydrochloride or the final product. The latter two activities take place very often at the same location and will simply be referred to as refining of coca paste. There is some information indicating that stepped up Columbian law enforcement in 1984 prompted reallocation of some refining activities to Bolivia and Peru.<sup>38</sup> Intelligence data indicate that in the latter two countries most refining is controlled or sponsored by Columbian groups.<sup>39</sup> Even though there are some independent vertically integrated indigenous operations, they are exceptions to the prevailing Columbian dominance.<sup>40</sup> Since from the technical point of view refinement is the most complicated activity in the vertical structure of production and also requires knowledge of international markets for procurement of precursor chemicals, it is controlled by professionals from middle-class families or individuals who have gained middle-class status based on their wealth earned in cocaine trade. E.g., in Bolivia refiners are frequently owners of large cattle ranches and merchants engaged in legal export activities. Their numerous economic interests extend into import houses, banks, car dealerships, retail stores and money exchange houses.<sup>41</sup> In Columbia most refiners are also traffickers or exporters of cocaine hydrochloride to U.S. markets. Investment capital for cocaine activities came from profits desired from earlier heavy involvement in illegal marijuana activities. Such comparative advantages enabled the "elite" families to capture activities at the top of the industry's vertical structure. Unlike paste production, refining activities require locations with electrical installations and, because of the high value of the final product, adequate security measures. Lower-class or middle-class houses in urban areas are common locations of refining laboratories. At this stage of production there are certain difficulties in procuring certain scarcer nonhuman and human inputs. Ether and acetone, which have to be smuggled from abroad, and chemists, referred to as "cooks" frequently hired to run entire refining operations, command relatively high prices. In smaller scale operations cooks may be partners in business or chemists hired for a high salary on a part-time basis. Large-scale refiners usually employ full-time professional chemists at annual salaries of \$10,000 to \$15,000, which are considerably higher than those of full-time Peruvian high school chemistry teachers earning around \$840 per annum.<sup>42</sup> Since the salaries of the chemists are relatively high, it makes sense to utilize such a scarce resource in a highly intensive manner in order to spread the relatively high remuneration over the widest possible output range. The more intensively is the chemist employed, *ceteris paribus*, the higher is the output and the lower are the costs per unit of output due to economies of large scale production. It stands to reason that crystallization is rarely performed with less than three kilos of cocaine base, and it is not unusual to process 50 kilo batches at any one time.<sup>43</sup> Because large operations achieve lower unit costs than small operations, competition causes production to take place in a limited number of plants and the refining stage of the industry can be readily classified as an oligopoly. Relatively high oligopoly profits, steep salaries of the chemists and expensive precursor chemicals are the main reasons for the relatively high value-added at this stage of production. Vertical integration of the first

three stages of production from coca farming to refining raises a possibility of pecuniary economies. As shown in Table 1, entrepreneurs who control all three stages of processing sell one kilo of pure cocaine for as low as \$7,000. But independent refiners who buy coca paste from patrones end up selling the final product at \$10,000 per kilo. Apparently vertical integration of the production stages is responsible for pecuniary economies of \$3,000 per kilo of cocaine hydrochloride. Possibility of such savings corroborates reports of a movement toward greater vertical integration in Peruvian and Bolivian operations.<sup>44</sup>

### Trafficking and Wholesaling

Entry into the refining-trafficking segment of the industry is difficult. Because of the huge amounts of money involved and the need of protection from law enforcement organizations and even rival exporters, the smuggling of cocaine has become an intricately organized activity. It is controlled primarily by a network of Columbian organizations operating the supply lines from South America, via Caribbean transshipment points, to American wholesale market.<sup>45</sup> The origins of Columbian involvement in cocaine trade are traceable to the influx of Cuban citizens and elements of Cuban Mafia to South Florida after the Castro revolution in the early 1960s.<sup>46</sup> By 1965 the Columbians were the sole suppliers of cocaine to Cubans, and Cubans were in charge of a trafficking and wholesaling monopoly in U.S. markets.<sup>47</sup> Transformation of the haphazard cocaine cottage industry started to take place once Florida's Cuban Mafia factions' marketing efforts began to spill out beyond the boundaries of the local Cuban community. It is most likely that once the Columbians learned about the enormous profits at the wholesale stage of the industry, the strict division of labor between the two ethnic groups came to an abrupt end. According to Table 1, value-added at the wholesaling stage is \$25,000 to \$28,000 which is, with the exception of retailing, higher than at any other stage of the business. Forward integration of the wholesaling immediately allowed the Columbians to reap vastly higher profits which they prudently plowed back into new capital acquisitions. By 1978 the Columbians became the dominant traffickers and cocaine wholesalers in the Miami market.<sup>48</sup> At the present time Columbian groups are the largest, most sophisticated organizations at the trafficking end of the business. Traditional control of the first two production stages in Bolivia and Peru is the main factor allowing them to establish their virtually undisputed domination of the market. Nevertheless, Cuban Mafia kept on challenging their new competitors in bloody confrontations until 1981, the year that marked the peaking of Miami-area drug-related homicide rates, dubbed by local police as the "cocaine wars."<sup>49</sup> Currently the cocaine wholesale activity throughout the entire U.S. is in Columbian hands.<sup>50</sup> The newly earned profits are carefully managed by financial experts familiar with international banking.<sup>51</sup> They are responsible for laundering, banking and investing of drug monies, and, most importantly, for assuming that a portion of the profit is returned to Columbia for reinvestment purposes.<sup>52</sup> It is very likely that a vast share of the newly-acquired profits were invested into sophisticated air delivery systems, and currently around 62 percent of the Columbian cocaine is exported by private aircraft,<sup>53</sup> a rise from 45 percent in 1978.<sup>54</sup> Since pilot service is a scarce and indivisible resource that commands high wages, in order to reap benefits of size economies in air transport, it is essential for traffickers to maximize the shipment load in relation to range. The newly acquired planes, such as the Piper,



Aztec, Piper Navajo, and the Cessna 400 series, are precisely the ones that can provide the optimum balance between range and cargo capacity.

They have the capability to transport a ton of cocaine over a range of about 1,800 miles and stay airborne for 11 hours with standard fuel systems.<sup>55</sup> In order to decrease risks of interdiction, traffickers also invested into advanced communication devices, such as, communication scramblers and encrypting devices.<sup>56</sup> Interception of smugglers' radio transmissions is virtually impossible now because only someone with a receiver coded to the particular frequency can decipher the message. Also, all kinds of other high quality electronic equipment was purchased to insure safer deliveries. E.g., in order to land without lights on rural landing strips, night vision goggles are now frequently used which are capable of intensifying any available light by a factor of 50,000. Radar altimeters and long-range navigation instruments are some of the other specialized devices now in use by traffickers.<sup>57</sup> Since vertical integration has allowed replacement of Cubans with Columbian employees, the risk factor was diminished even further. According to a Miami private investigator, D'Azevedo, one of the things Columbians learned was that with Cubans there were many informants.<sup>58</sup> Hoping to receive high degree of loyalty in exchange from their own nationals, Columbians introduced a generous wage rate and a set of fringe benefits that included continuing support to employees' families in cases of arrest or imprisonment. However, any breach of the secrecy code became punishable by death.<sup>59</sup> Whenever retribution cannot be taken directly on an informant, it is carried out in Columbia against some family member. By wreaking vengeance quickly and with no quarter given, the Columbian organization provide themselves "insurance" against violators of the secrecy code. For Columbians the takeover of wholesaling established two highly desirable results. Firstly, it created a new source of profits which were prudently plowed back into highly efficient capital equipment. Secondly, forward integration produced an "invocation" of employee loyalty. Both benefits, by decreasing risk of operation, have increased profitability and are the main reasons for continuously increasing cocaine shipments to U.S. markets. Any discussion of Columbian involvement in the cocaine trade would be remiss without a mention of the organizational structure of the Columbian refining-trafficking activities. In brief, the structure can be characterized as a cooperative arrangement of several cartels. The vast majority of cocaine smuggled into U.S. comes from 10 to 20 regional cartels that are run and staffed by Columbians only.<sup>60</sup> A typical cartel is headed by an individual who is usually well-known to the drug enforcement community. Members are blood relatives or life-long friends of the leaders, frequently people who grew up in the same village or the same area as the head of the organization. Many of the cartels are believed to have financial resources of several billion dollars and, by using some of the profits to provide health care and education, they have built up a considerable public support system for their illegal activities.<sup>61</sup> Even though most of the cartels are independent trafficking and/or refining organizations, they frequently collaborate in specific smuggling ventures.<sup>62</sup> Rank and file personnel, technicians and specialized equipment are switched around among cartels as needs of specific operations dictate. Such cooperative arrangements not only promote efficient utilization of expensive capital but also full employment of specialized human resources. Pablo Escobar Gavicia, Gonzalo Rodriquez Gacha, Jorge Luis Ochoa Vesquez and his two brothers, Juan David and Fabio, are the most successful and influential organizers of such collusive

arrangements.<sup>63</sup> The above individuals started their cocaine operations around the city of Medellin and are frequently referred to as the Medellin Cartel. So when one reads in the press that a Columbian cartel is responsible for 80 percent of the cocaine shipments to U.S. markets,<sup>64</sup> the credit should actually accrue to several cartel organizations that are in various cooperative agreements under the leadership of these men. Collusion among cartels provides numerous benefits, such as, division of labor, full employment of specialized resources, full capacity of high-valued capital, wide selection of smuggling and processing equipment, and control over price and quality of the final product. Thus the ultimate force behind collusive arrangements is maximization of profit. Any type of grand scale collusion in the cocaine retail markets is an economic impossibility. Annual retail cocaine transactions number in the tens of millions in thousands of regional and subregional markets. Inability to exert control over large numbers of dealers is probably the main reason why Columbians have not displayed any desire to get involved in the last stage of industry. Risk and adulteration of cocaine hydrochloride with cheap ingredients<sup>65</sup> are the basic sources of high profit. With the arrival of crack, a highly addictive cocaine derivative, retail market opened up to armies of small dealers. They convert powdered cocaine into smokable form by a simple process and sell it at high profit. The competition among sellers is intense and frequently results into violent "turf" wars.<sup>66</sup> Violent attempts by newcomers to capture markets from the more established organizations compounds the risks to excessively high levels and provides one of the main reasons for the high value-added at the retailing level of the industry.

### Conclusion

Every year U.S. markets are being swamped with continuously increasing quantities of cocaine. The formidable industry spanning two continents is now more efficient and better organized than ever before. Steadily falling cocaine price gives ample support to the intelligence data that supply is increasing faster than demand. So far all government's efforts to decrease the supply has failed. But even if interdiction efforts were to succeed in holding the supply constant or even decrease it by some marginal amount, consumption in U.S. markets would not change significantly. No matter what the illegal substance is, as long as its demand for a substantial number of consumers is relatively inelastic, there always will be a black market for such a product. The criminal justice system has less control over cocaine industry than any other form of illegal activity. The industry's vertical structure encompasses several countries and is painstakingly complex. Infiltration into organizational structures is virtually impossible because, with the exception of the pilots, only relatives and old acquaintances are allowed to fill the ranks of the organizational structures. Production starts in remote jungle regions governed by corrupt local officials and threads itself through several South American countries into the North American continent, despite the herculean efforts of U.S. law enforcement operations and those of numerous other governments. What makes cocaine control even more difficult is that when it reaches U.S. markets, it is consumed in a free society by people who, more often than not, are law-abiding individuals. Jim Smith, Florida's Attorney General, points out, "I don't believe traditional law enforcement can ever effectively deal with the problem . . . Unless we get to the point where we have a military standing shoulder to shoulder around over

coastline, I don't think we will get it done with traditional law enforcement methods.<sup>67</sup> Because cocaine is one of the most harmful and corruptive force in our society, Washington has an obligation to fight it. So far supply reduction policies have failed to stop the growth of industry. In light of the enormous amounts of resources allocated to supply-reduction strategies, one cannot help but experience a high degree of frustration with the current enforcement approach and its hapless results. We know that the attack on the supply side alone will not eliminate the scourge of cocaine. To the chagrin of many, Washington seems almost unaware that there is also a demand side to the problem. So long as there is demand for cocaine, supply will find its way into the market. But unlike the youth of 1970s, there are some recent signs that drug education can reach a very important segment of our young population. The 1.9 percent decline in cocaine use among high school seniors is an indication that drug education has the power to influence demand. A reallocation of a substantial amount of resources to a systematic and thorough educational and drug awareness programs aimed at our young people holds considerable amount of promise. From the political perspective, it is a solution that is less attractive than the supply side approach because its results will become apparent only in the long run. Granted, as of now we do not know exactly what effect massive educational program will have on demand. What we already do know is that there is no quick fix to the problem and the attack on the industry solely from the supply side has reaped only meager results. It is time to try a two-pronged approach that will address both the supply and demand sides of the industry.

## ENDNOTES

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**Table 1**  
**Stages of Production and Value Added for One Kilo**  
**of Cocaine Hydrochloride, 1985**

- I. Coca growing, 425 kg. of leaves  
 Cultivation costs: negligible  
 Sold at: \$3,374 (at \$7.94/kg)  
 Value added: approximately equivalent to selling price  
 Profit: approximately equivalent to selling price
- II. Pasta production, 3.75 kg of coca paste  
 Production costs: \$3,524  
 Sold at: \$3,750  
 Value added: \$1,050  
 Profit: \$226
- III. Refining (production of c. base and c. hydrochloride), 1 kg. of cocaine hydrochloride, 95-98% pure  
 Production costs: \$5,000  
 Sold at: \$7,000-\$10,000  
 Value added: \$2,000-\$5,000  
 Profit: \$2,000-\$5,000
- IV. Wholesale, 1 kg. of cocaine hydrochloride, 95-98% purity, New York City  
 Sold at: \$35,000  
 Value added: \$25,000-\$28,000  
 Profit: approximately equivalent to value added
- V. Retail, 2 kg. of cocaine hydrochloride, adulterated to 50% purity  
 Sold at: \$200,000 (at \$100/gr)  
 Value added: \$165,000  
 Profit: approximately equivalent to value added

**Sources:**

Raw data from Edmundo Morales, *Studying Coca and Cocaine Production in the Peruvian Amazon*, U.S. National Institute on Drug Abuse, New York City, N.Y.; for wholesale and retail prices, New York City Police Department, New York City, N.Y.

Organizations that control the first three stages of production sell at \$7,000. Refiners who buy the paste from middlemen sell at \$10,000.