

Black Markets and Greys Networks for Illegal Exchanges in post WW2 Germany

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In Germany, from May, 1945 to June, 1948, illegal exchanges increased sharply due to failures in the rationing system. These exchanges took place through three different markets and for many goods they were in competition for attracting clients. Using historical documents and archives, we show that Germans when choosing the market to deal on faced the following trade-off: on the grey markets, prices were far cheaper than on the black market although transaction costs were far higher. Nevertheless people exchanged more often on the former than on the latter. Using the search-theoretic framework, we analyse each market's characteristics along 3 dimensions: 1/ the matching technology, 2/ the price mechanism used to set prices and 3/ the degree of anonymity of agents. These define a first type of transaction cost. A second type of TC derives from agents' or government's preferences (e.g. fines by the police, loss in reputation). Combining these two TC gives us some predictions on the payoff associated to each market. We find evidence that the high black prices were due to differences in the police's ability to enforce the price legislation on each market. This explanation also provides a rationale to the social condemnation of black marketing by the population.

In rationed or price controlled economies black markets flourish. Post WW 2 Germany made no exception to this rule. The proportion of illegal exchanges¹ in all exchanges was gauged by the U.S. occupation authority to 20 % of the food supply² in November 1945 and grew up to 50 % 6 months later³. These deals were done using one of three types of

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¹ An illegal exchange is here defined as an exchange that contravened either laws on price control or those on rationing, i.e. all trades involving a rationed good either not sold at the official prices or not sold against the fiat money and some rationing coupon.

² Although 'the overall proportion of basic commodities moving through illegal channels is probably much lower', cf. Report of the U.S. Military Governor, U.S. zone, #5, Dec. 1945, section 'Trade and Commerce', *Institut für Zeitgeschichte*, Munich, *IfZ*.

³ Cf. Monthly Report of the Military Governor, U.S. zone, # 11, June 1946, *IfZ*. A later report indicates that barter amounted 'to 30 to 60 per cent of the entire commerce in industrial goods in some parts of the combined U.S. and British zone.' ('Problems of Price and Market Policy', 06/18/1947, mark 4/77 2-1 Econ TC blatt 4/5, *IfZ*). However, this reports also specify that this was true only 'in some parts of the combined US and British zone' and that the scope of illegal exchange varies from region to region, from industry to industry and from plant to plant' (p. 5; OMGUS 4/77 2-1 Econ T&C, blatt 4/5, *IfZ*). The June 1948 report of the Military Governor of the U.S. Zone (p. 6) pointed that "the volume of goods and services that pass through the black market [...]"

competing market settings, labelled black, grey and dark grey markets. Grey exchanges mainly consisted in trades done among agents belonging to a pre-existed network that implied neighbours and relatives (Klemperer:1946; Thurnwald:1948). Exchanges completed on centralized market places were called black while the ‘dark grey’ ones pooled all those using decentralized matching technologies such as direct exchanges between consumers and farmers or producers.

One of the striking features of this description is that none of these markets collapsed between the end of the war and the monetary reform of June 1948 although they differed both in terms of prices and associated transaction costs. Rather, this competition created a split of the population of traders between those choosing to exchange on the black market and those exchanging on the grey or the dark grey market. As an economist, this coexistence is puzzling as we would have expected the centralized market to take over the others, as it minimizes market-related transaction costs⁴ and then must be the most efficient⁵. Rather, this market was dominated in term of market share by the two other markets⁶. Yet no rationale has still been provided to explain the coexistence of these segmented markets. The few papers on this topic have often have assumed that such an economy can be thought of by assuming that some Walrasian markets (representing the working of black markets) paralleled the fixed prices ones (i.e. rationed and controlled). The development of the microeconomics of decentralized markets allows filling the gap because it provides an analytical framework that helps to isolate a simple criterion to explain this striking feature. In this paper, I argue that this rationale lies in the enforcement of the anti black market legislation by public authorities. Using both

has been estimated at 50 to 60 percent of production". These rough estimates exhibit a much higher figure than those of the UK or the U.S. during the same period (Rockoff, 1981, Mills and Rockoff, 1987)

⁴ I.e. we distinguish between two types of transaction costs, those induced by the characteristics of the transaction technology of a particular market and those derived from the effect on agent's payoff of the enforcement of government's preferences over illegal trading.

⁵ Note that an alternative criterion to assess the efficiency of markets could have been an ex-post one, such as its level of prices as compared to competing market structure. I choose to ignore this ex-post criterion as transaction costs were of particular importance for the choice of one market as compared to the other.

⁶ Piettre (1952) gauged the size of the centralized black market to 1% of all transactions while Menderhauser (1949) provides a slightly higher figure with 10%.

contemporaries' testimonies and archival materials, this theoretical construction is then used to construct a precise and detailed account of the German illegal market setting⁷.

The logic of the argument explaining markets coexistence runs as follows.

Using the language of game theory, the coexistence of different active types of markets can be reinterpreted as a game in which some agents have selected one market to transact on while the remaining part have chosen one of the others. Assuming rational behaviour, the explanation of this observation amounts to find out the payoff differences – both transaction cost and prices – each agent can get on those markets. It follows that if one observes a split of the population between markets, there had to be some kind of heterogeneity among agents. In this paper, we argue that this heterogeneity lies in the ability of agents to resist to the cost of the police enforcement of the legislation. The premise is that preserving the secrecy of illegal activity towards law's enforcers is the main concern of agents engaged in illegal trading. Two pervasive problems come with the will to preserve secrecy: First, nobody wants to be caught by the police on one of the illegal markets and second, people try to be protected from ex post checking of their illegal activity. These two problems are the building blocks that explain how agents adapt their strategies to those adopted by public authorities to implement the legislation. Therefore explaining the coexistence of competing markets amounts to explain how agents differ in their ability to escape the police cost. In a sequel, the enforcement by the police forced the majority of agents to switch from centralized matching to a decentralized search, some others to network trading and the (few) rest that stay on the centralized market to engage in more criminal activity by acquiring weapons or forming coalitions such as mafia. These ways to escape entailed of course some real welfare cost of illegal trading and indicated that in this case public policies can have worsened agents' welfare.

⁷ There are no paper on post WW 2 German illegal markets. Most works on this period deal with the conditions of the "German miracle" of the 20th of June, 1948 (e.g. Abelhauser, 1975, Ritschl, 1985, Buccheim, 1988, Berger & Ritschl, 1995).

Two types of sources have been used to document this investigation. First, I have mainly used the archives of the U.S. army⁸ and of the regional administration of Bavaria⁹ together with surveys written soon after WW 2 by economists that worked for the Allied occupation authorities. Second, I also have used newspaper articles, contemporaries' testimonies, and the few surveys social scientists have conducted at that time on Germans' everyday life. These sources provided detailed and often complementary pieces of information on illegal markets. They also allow observing market settings that public authorities did not even mention in their reports (e.g. grey networks).

The rest of the paper is organised as follows. In the first section we review the related black market literature and construct our theoretical argument on the shaping of illegal market structure by the implementation of the law. The second section presents the illegal market structure of the German episode and analyzed the transaction costs associated to each type of illegal market. The last section concludes.

1. Rationing, price controls and illegal markets: theoretical insights

The introduction of price controls aiming at regulating / containing the increase of some prices usually disturb the allocation of goods and lead to some 'disequilibrium' situation that shows up either in the appearance of queues (rationing by waiting) or the emergence of black marketing (or a combination of both). The potential appearance of queues can usually be solved by the implementation of an allocation scheme (a rationing system) that allows buying the controlled goods against both ration tickets and money (Wallace, 1945, Tobin, 1952) thus giving the public authorities discretion on the allocation of supply to buyers.

But price controls and a rationing system *per se* do not preclude the emergence of black market as both producers and consumers suffer from the disequilibrium created by

⁸ *Institut für Zeitgeschichte*, Munich, *IfZ*

⁹ *Bayerische Hauptstaatsarchiv*, Munich, *BHA*

controlled prices¹⁰. Following the traditional economic intuition, agents will search to establish a new market on which prices are freely set and they shall prefer *ceteris paribus* to trade using a market structure that minimizes their transaction costs and especially the search cost of an agent of other side of the market. Its features will then be centralization (many traders meet in the same place thus minimizing the cost of searching for a double coincidence of wants or the cost of switching to another trader if a tentative deal failed to be achieved) and an easy-to-find localization (few cost to participate to that market) so that the price will clear this market¹¹.

However such reasoning disregards the enforcement strategy of the legislation by public authorities that will design it to incite traders to comply with the law. As the implementation of this policy is costly, it is necessarily imperfect and then (active) price controlled markets must coexist with (active) illegal ones¹², a common feature of most European countries during and after World War II. Many papers used this argument to justify this coexistence either as a device to only focus on the equilibrium black market prices or by assuming some function that make illegal trading a costly activity¹³.

The point is that the implementation of such a policy has broader consequences as it should obviously shape the whole structure of both legal and illegal markets, i.e. the organization and features of each market and the number of illegal markets. Some papers take

¹⁰ On the buyer side, such disequilibrium often translates into buyers being the short side of the market and as prices do not adjust freely, there is an unsatisfied demand ready to buy at higher prices. On the supply side, producers can be willing to sell black as in such an economy the controlled prices lies below the (true) market prices.

¹¹ This description of the working of a rationed and controlled economy can be found in many theoretical papers dealing with black markets matters since the end of WW 2 (Bronfenbrenner, 1947, Plumptre 1947, Michaely 1954, Gönensay, 1966 and for a analytical approach see e.g. Chinn, 1978, Djadic, 1999) or with smuggling by firms (Bhagwati and Hansen, 1973, Martin and Panariya, 1984, Schöler, 1989, Thusby et al., 1991, Fausti, 1992).

¹² Pitt (1981) provides a slightly different explanation for this coexistence when he assumed that "the greater the legal trade, the easier it is to hide smuggle activity from enforcement agency", implying that the firms has an incentive to trade white when it wants to smuggle. (a firm could have interest to engage in legal trade in an effort to hide its illegal activity to the police in which case black and white trade are joint product).

¹³ This assumption was mostly done within the smuggling literature. Bhagwati and Hansen (1973) assumed that there is some transformation curve of exportable into importable at a less favourable ration than the terms of trade. Pitt (1981) assumed a smuggling function, i.e. that the quantity of good smuggled depends both on the quantity of goods sold legally and of the resources devoted to smuggling.

seriously the idea that the public authority has instruments to implement this policy. Drawing upon the insights of the economics of crime¹⁴, Martin and Panagariya (1984), Schöler (1989) and Thusrby et al. (1991) assumed that the enforcement is made using two instruments: a set of regulations and a police to implement it because the legislation defines both the scope of black trades (the definition of what is legal or illegal) and the punishment cost while the implementation by a police set the probability of being caught and punished. As argued by Edwards (1989) the implementation of such a policy must impact on prices asked by regular black dealers through some kind of premium¹⁵ to compensate them from the risk taken by selling black.

The problem is that most papers are stuck with the assumption that the number of markets on which agents can trade on is equal to two: people must choose between a more or less competitive black market and a controlled market¹⁶. This assumption has two adverse consequences. First, the effect of the police is uniform across agents, thus impeding to consider that some of them can be protected against the police action. Second, it seems inappropriate to restrict the decision set of agents to either trading black and paying the police transaction cost or selling (buying) on the official market. Rather the police fight must impact on buyers' and sellers' strategy because they can try to reduce the police transaction cost by a using a more decentralized market structure on which the effect of the police must be weaker than on a centralized one. If agents are heterogeneous as regards to their ability to trade on one market or the other, this police transaction cost can influence the number of black market

¹⁴ According to Bhagwati and Hansen (1973), the first author that mentioned these two instruments (in the context of smuggling activity by trade firms) was Cesare Bonesana in a text published in *Il Caffé* in 1764-5 (see footnote 2, p. 172). Chinn (1978) and Martin and Panagariya (1984) provides an elegant treatment of this coexistence in that they deals with firms microfoundations of the police transaction cost.

¹⁵ Other papers have looked at other determinants of the black market premium in the context of illegal trading of currencies. Braga de Macedo (1982) and Dornbusch et al. (1983) used a portfolio model to explain the behaviour of this premium. Kharas et Pinto (1989) linked this premium to the expectations of change in the fiscal deficit of the government (see also Pozo and Wheeler, 1999). Since during those times most of the German black trades were for consumer goods and not for currencies, such a framework is not very useful to us. However changes in the government politics can have impact black market prices. As this has no impact on the argument we developed in this paper, we decided to leave this study for future research.

¹⁶ Either fixed-price or, for papers on smuggling, the world price of the commodity.

and be a rationale for the coexistence of different competing markets (and of the segmentation of the clientele).

Before going further, we need to define the concept of market we will use and give some intuitions of the effect of the police on each type of market structure. Borrowing the microeconomics of exchange, a market¹⁷ consists in the set of all trades achieved through a particular trading structure that we define along three dimensions. These dimensions are sufficient to describe how agents choose between market structures when the police fight illegal trades. Moreover, they are the primitives of most market-related transaction costs one can observe in this type of economy.

The 'matching technology' is the first dimension. It describes the way people meet on a market but also their opportunity set of potential trades and the time it takes to exchange. The matching technology defines whether one side of the market searched for the other side or whether both search. It also describes how people can localize other traders, i.e. if the search can be directed to a given seller (or types of sellers) or if it is random. Finally, the matching technology influences the number of people meeting in the same place but also the speed between two matches if a tentative deal had failed (and then the time cost of being rematched).

The second dimension is the mechanism used to determine the price of each swap (bargaining, price setting, bid...). Combined with the matching technology, it contributes to determine the level of the price as e.g. the matching technology determines the outside options of traders while bargaining.

The last dimension is the degree of anonymity among agents. This last criteria help to discriminate between long-term relationship and one-shot deals, i.e. between impersonal exchanges and networks of traders.

¹⁷ In this paper, we will use equivalently the term market, market setting or transaction technology.

Yet if agents differ in their ability to protect themselves from the police fight, they could choose to pay more market related transaction costs in order to reduce the expected police cost. There is no compelling reason to believe the implementation of the police to be the same across market structures. Rather, there are good reasons to believe that this could be the case. Most of the benefits of centralized market come from the fact that agents can be matched and rematch quickly and cheaply if one deals fails to be completed and also from the fact that many people can easily locate the market place. Of course these advantages are also those that make the police fight easy because the police know where the market place is and when it raids on it, many traders can be arrested. The return on this kind of raid is therefore very high for the police (defining the return by the amount of resources needed to arrest a given number of illegal traders or to seize a given amount of goods). Assuming the resources devoted to the police are limited, this should bias the police fight toward the more centralized market¹⁸.

The likely effect of an intense fight against the centralized market is to incite its traders to protect themselves from the police by acquiring special skills such as holding weapons, creating a mafia or having special connections with the enforcers of the anti-black market legislation. As long as the whole population is not able to escape the enforcement scheme using one of these skills, the police fight must create a split between those who will still choose to exchange regularly on this centralized market and those who will not or only seldom. Another likely effect of these changes is to make the black market less competitive as the creation of mafia creates a coalition of traders able to collectively protect themselves from prices decreases. In turn, this change in the organization of the centralized black market will affect agents' preferences over the type of illegal trades which is legitimate to use, thus leading potentially to some social condemnation on one or another market.

¹⁸ Plus it could be that the policemen find some ways of trading illegally more legitimate than others thus discriminating *de facto* between illegal markets.

The enforcement intensity must also impact on the number of illegal markets as it incites part of the population to set up more hidden illegal markets, making them less likely to be caught while breaking the law. To escape the police fight, agents can either switch to a more decentralized matching technology or they will adjust the degree of anonymity of the market. If they choose to reduce their anonymity, they will establish a network of traders to establish long term relationships, thus reducing the expected police cost provided the network is not discovered by the police. There are also advantages to complete one-shot deals and thus stay anonymous if one expects that the coalition of agents trading in a given network is not stable. In that case, to escape the police fight, traders will choose strategy contingent on the police fight notably by using a more decentralized matching technology. More precisely, we expect them to choose to meet counterpart traders in places where few other traders also met, thus making the fight of this type of trades very costly for the police. They will then renounce to some of the benefits of centralization but also reduce the expected police cost.

Establishing a network to trade illegally should make illegal trades very difficult to observe by the police provided it is sufficiently informal (trades can be enforced without needing pieces that can be used as proof in court or during a police investigation) and not too open to new membership, i.e. it is difficult for the police to infiltrate. A network of friends and/or relatives can meet these requirements as prior social relationships among members create an entry barrier to new membership but also because the loss encountered if one denounces the others to the police incorporates a reputation component. Also, the social nature of the network makes easier the enforcement of the trade (implicit) contract because some punishment strategy such as the exclusion from trades with all other network's members can be used against those deviating (see Kandori, 1992 for an existence proof of such a self-enforcing mechanism in a long-term relationship). Notice that the development of this kind of

networks can also be impeded by an absence of double coincidence of wants among members for example because some products are not traded in it.

The strategies to trade black while staying anonymous must be contingent on the method and intensity of the police fight. In any cases, provided the incentive to black trade is sufficiently high, one can expect that the only consequence of an increase in the police fight intensity will be to create more and more decentralized market places. Starting from a situation in which traders are used to meet regularly in an open and central place such as a train station or a park, the police raids will make people willing to search for places less easily localizable. We will then observe local markets in private houses or in shops. This will in turn incite the police to enter these private houses which will sometimes need to change the legislation. For black trades done in shops through diversion of part of the stock, the police will track the accounting and delivery received by shops. This will of course make the diversion of stocks harder but would not necessarily end traffics. Assuming that it is easy to convict and punish those shopkeepers, the effect of this type of fighting will only be to shift the diversion to agents for whom it is difficult to prove the diversion. Good candidates are producers of industrial goods and farmers as their output is not directly given by the quantity of inputs used, thus leaving some room when declaring their output to the official authorities. It follows that the enforcement of law is very difficult for the police.

Hence, when the incentive to trade black is high enough and the police fight hard enough, there will be a disintermediation in the distribution of goods with a significant share of illegal trades done directly between consumers and producers. We can then observe consumers directing their search for goods to producer's places and then search (randomly or not) for a counterpart or the symmetric situation, i.e. producers moving to consumption places and search consumers ready to buy their holdings. Determining which situation will prevail depend on many parameters such as the discount rate, the intensity of the double coincidence

of wants problem or the relative utility of the goods exchanged (Bignon, 2003). In situation in which consumers lack the essential items and the (marginal) utility they get from buying additional quantities on the black market is high enough, one should observe consumers travelling to producers' places. As compared to those of the centralized market, the police expected cost should be lower because it is very costly to check all traders who used bicycles, trains or cars to go to producers places as this will need to maintain checkpoints on each road and in each train station¹⁹.

Theoretically, the explanation of this direct decentralized market incorporates two dimensions. First, there is a geographic dimension as agents move from their usual location to another in order to buy/sell the goods searched. Second, this market is clearly decentralised in its description as once one side of the market decided to move to the location places of the other side, those agents search for a double coincidence of wants in a decentralised fashion (and not on the local centralized market). The rationale of this trade setting has roots in the two tools the police can use to fight of illegal trading: 1/ the direct checking of traders when trades takes place or 2/ an ex post check which occurs when policemen compare – often by using accounting records – the amount of goods delivered through the rationing system to these shops or firms and the quantity of goods they sold against ration coupons on the official market. Ex post checking must move the incentives to black trade to those that can hide part of their holdings to the officials. Clearly, when these checking are efficient enough, shopkeepers have few incentives to black trade. Hence, in that situation one should observe on the seller side few shopkeepers as compared to the number of producers involved in black marketing (just because it is harder for the police to prove that they divert part of their output to the black market).

¹⁹ Moreover it can be quite difficult to convict people of black marketing provided they do not handle too much quantity of goods when travelling as they can always argue that they were visiting some relatives in the countryside that gave them these goods.

To conclude this section, our analysis has suggested two main policy variables to explain the behaviour of agents in this type of economy: the probability and cost of being punished by the public authority. We have argued that the agents' main concern was to preserve the secrecy of their involvement in illegal trading to the public authorities and that the whole market structure of such an economy is shaped by the incentive of those traders to protect themselves from the effect of the police fight. Two pervasive problems are associated with the protection of the trader's secrecy. First, nobody wants to be caught by the police while on a black market because of the associated sanctions and this entails some traders to engage either in criminal activities (e.g. mafia) or to find more hidden way of trading (network, decentralized meeting). Second, 'official' sellers often implemented strategies to escape the ex-post police checks while selling black. To some extent, this can entail a (geographic) disintermediation of exchanges because producers are better protected to this type of checks.

Finally two remarks are in order.

First, not only the decentralized market but also other market structures must incorporate a geographic dimension because the production specialization of each part of a given territory makes unlikely the self-sufficiency of each subdivision. This gives rise to the need of some people moving from one place to another in order for goods to be available in each location. It follows that at least some dealers of the centralized market but also of the network or the decentralized market structure can act as geographic intermediaries and – sometimes in an extensive sense – as “wholesalers”.

Second, another effect of the police fight on agent's strategy must be considered: the outside option of agents when not engaging in illegal trading. If the incentive to supplement the ration is high enough and if the police expected cost is high enough, one shall observe a regression in the division of labour as agents can prefer producing the needed goods rather

than engaging in trading. This can translate into the growing of fruits and vegetables in garden or into people swapping their job for another that gave a greater access to the needed goods.

The next section examines the historical evidences on the post world war 2 German black market episode.

2. Illegal markets in post WW 2 Germany

Faced with a high inflation pressure rooted in the way war was financed, the Allied occupation authorities decided during the summer of 1945 to continue the very developed system of monitoring both the allocation and the prices of goods introduced during the war. The basic idea was to wait for the economic recovery before removing all of these controls (Backer, 1971). Sauermann (1979) indicated also that the Allies feared starvation of the German population during the first months of the occupation and so decided not to change the way goods were supplied.

According to the legislation, an illegal exchange is defined as an exchange that contravened either laws on price control or those on rationing, i.e. all trades involving a rationed good either not sold at the official prices or not sold against the fiat money and some rationing coupon (Kromer, 1947). The consumer Regulation Penal Ordinance of 16 November 1941 provided penalties against all unauthorized diversion of controlled commodities. The War Economy Ordinance of 25 March 1942 prohibited all barter or compensation transaction. The Allied Control Authority Law n°50 that came into force on 7 April 1947 provided heavy penalties for illegal transactions in rationed goods. Note that in many official documents, all types of illegal exchanges are labelled as 'black market'. For the sake of exposition, the term 'black market' is thereafter assigned to label the centralized market setting.

The price control system was set up to allow the authorization of price increases asked by firms. It was complemented by various administrative bodies that were in charge of monitoring the enforcement of this legislation. The military government policy has placed responsibility for the active administration of the price control system on the German authorities. The German price control system consists in a price agency in each state (*Land*) that examined the authorization of price increases and a sub-agency in each county (*Landkreis*) that checked the compliance of producers and shops to these legal price ceilings. For the U.S. zone, the work of each of these offices was supervised by an administrative office of the same geographic level in the U.S. military government. Moreover, the police was in charge of enforcing the regulations on illegal markets. Again, in each county, each detachment had to monitor the work of the German police. Sometimes, soldiers also helped the German police to fight some form of illegal trading

The rationing system dealt with the centralisation of the allocation of civil goods²⁰ among the population. The functioning of the rationing scheme was the following: Each month, the rationing authority received an estimate of the total quantity of rationed goods that will be available during the following month and then decided the composition of the individual rations and the daily caloric value of each type of ration. On the consumption side, consumers paid their ration with Reichsmarks together with the ration tickets they got from the local rationing authority. Rations differed according to age, gender, occupation and the degree of hardness of the job. This endowment in goods provides between 1300 and 1500 calories per day to a normal consumer²¹ and less than 2750 to a heavy worker. This was clearly insufficient to fulfil the basic needs.

20 The delivery of goods was ensured by private shops but clients could buy only if they possessed a rationing card composed of many coupons that were, together with the RM, necessary to allow the purchase of rationed goods. Many types of cards existed to discriminate the food rations between male and female workers, pensioners and young people. For a theoretical explanation of the rationing system, see Tobin (1952).

21 According to Backer (1971), the daily ration delivered to a normal consumer gave less than one thousand calories in June 1945.

2.1. Solutions to complement the official rations

Germans then searched for solutions to supplement the basic endowment of the rationing system. Some searched for a job that offered a complimentary lunch and/or with part of the salary paid in kind²². The sociologist Thurnwald (1948:47) indicated that among the 200 families she interviewed, 49 indicated that they received a complimentary lunch. Some work's councils (*Betriebrat*) also organised the supply of the needed stuffs²³ – sometimes in contact with the buying department of the firm (Rothenberger, 1980; Rüther, 1991). The needed stuff sometimes consisted in consumer goods but more often in the goods produced by the firm. For example, the Intelligence Division of the Office of the Military Government for Bavaria reported that 'it is customary in the British zone for employees to receive part of their wage in industrial goods'²⁴. However, the ability of firms to supplement money wages with 'inducements such as lunches and goods'²⁵ depended strongly of the kind of goods produced by the firm as 'Industries making primary producers' goods are at a relative disadvantage in attracting and holding labour and in making compensation deals with a broad variety of customers'²⁶.

Other decided to turn gardens or available surface into kitchen garden. For example, the proportion of the surface of the city of Berlin dedicated to cultivated area²⁷ increased by 17% between the end of 1940 and October 1947. The cultivated surface per inhabitants of Berlin (east and west) jumped from 10 square meters to 16 between 1940 and 1947 (as for 1949).

22 See Lutz, 1949, Monthly Report of U.S. Military Governor (July 1946:13): 'Often, German workers are unwilling to work unless wages are supplemented by food or other items' or the Monthly Report of the Military Governor, U.S. zone, August-Sept. 1947, p. 2: *IfZ*.

23 For example, the Intelligence Report of the 02/11/1948 of the Office of the Military Governor for Bavaria noted that 'Another large catch in Landeskreis Ingolstadt consisted of 1 100 pounds of canned meat, which was to be shipped to a railroad trade union in the British zone, admittedly acquired through unauthorized barter transaction.' (marked ODI 7/36-2/4 p. 2/17; *IfZ*)

24 Office of the Military Governor for Bavaria (OMGB), Intelligence Report 02/11/1948, ODI 7/36-2/4 p. 2/17, *BHA*. Report from the 'Detachment A-250 Bad Kissingen and Det. E-237 Ingolstadt.

25 Monthly Report of the Military Governor, U.S. zone, August-Sept. 1947, p. 2: *IfZ*.

26 Monthly Report of the U.S. Military Governor, Feb.-March 1947:20.

27 Own calculation based on the statistical handbook of Berlin ('Berlin in Zahlen', 1942:102, 1947:232; 1950:4) for the garden surface and in Berlin in Zahlen (1947:74; 1948-1949) and 'Statistisches Jahrbuch Berlin 1952' for the Berlin's population.

This increase in the cultivated area is not only true for peripheral district but also for the central ones. However, if garden's cultivation could have been widely used in the countryside, according to Thurnwald, only few city dwellers benefited from its production²⁸. More of them²⁹ took advantage from receiving food packages send by relatives living in the countryside or outside the country. But according to Thurnwald (1948:51), when the receiver did not pay for them, these sending were very occasional and variable in term of the quantities and qualities of the food send. All in all, according to the OMGUS survey of Merritt et al. (1970:17-18), eight out of ten Germans of the US zone were able to supplement theirs rations by canning foods from their gardens, obtaining goods from friends or relatives who lived in the farms or securing special supplements because of the nature of their work.

Some of these ways often directly fulfilled the need for calories as in the case of complimentary lunches or gardens, which gave potatoes and vegetables or even fruit that lacked in people's ration. But other ways did not entered directly in the consumption basket of agents. This is obvious for people that earned part of their wages in industrial good. But, as noted in Thurnwald (1948:51), experts in garden's cultivation used their surplus as means of payment for other food items. Hence, some of these extra-endowments of goods had to be traded illegally. People also used their savings or sold some personal assets³⁰ to buy their desired goods on one of the illegal markets. There were three main markets on which this money or these items could have been sold:

- **The grey market:** Grey exchanges occurred in a pre-existed network that implied some people living in the countryside and other living in the cities. The basic scheme underlying this type of trade is the following: One man/woman regularly went to some of him/her acquaintance to buy goods. When returning to the city, he/she kept part of

28 In Thurnwald sample of 200 Berlin's families, only 25 out of 200 families benefited from a cultivated area (1948:50-51).

29 48 families out of 200 in the Thurnwald survey (1948:51).

³⁰ Mostly second-hand goods such as shoes or cloth, radio, bicycle and luxury articles such as jewellery, paintings and so on (Thurnwald, 1948 chap. 8; Menderhauser, 1949, Lutz, 1949).

the goods bought for his own consumption and resold the remaining part to some neighbours or relatives. The prices paid for these good in the countryside were above the official price but far cheaper than the black or even the dark grey one. According to Thurnwald (1948:68-69), people charged 'moderate' black prices, both on the buy side and the sell side, because of their belonging to the network.

- **The dark grey market:** Dark grey exchanges have characteristics close to grey one except for few dimensions: 1/ they did also occur between city dwellers (some workers of rural areas also participated) and farmers or firms³¹ that did not knew each other before entering a trade relation. As a consequence, the price paid seemed to have been higher than those of the grey market and Germans city dwellers complained about the prices asked by farmers for their goods (Thurnwald:1948); 2/ these exchanges were barter trade³². Three main types of goods were used by city dwellers to pay for goods, second-hand goods, industrial goods or other luxury goods such as tobacco or alcohol. The price paid by farmers for second-hand goods decreased in the course of the crisis (Thurnwald, 1948) while farmers welcomed industrial goods such as cement, fertilizers, tires as they complained about the difficulties in inter-zone trade: 'though they are forced to fulfil their delivery of foodstuffs, they have not received any tools or implements from the British zone'³³. As for grey exchange, when returning to the cities, city dwellers also resold part of the goods bought. According to Thurnwald (1948:70), the traveller charged a price that include some bid and ask spread to pay for his/her travel cost. To travel to countryside, many used the

³¹ To find shoes, many travelled to Schwaben (South-West of Germany) and for fruits, people took the train to Bavaria.

³² See e.g. the Monthly Report of the Military Governor n°21, Feb.-Mar 1947, p. 20

³³ Black Market Report #14 for the week ending 03/15/1947, Passau Sub-regional area, OMGB 15/122 3/19 CAD 1/3, BHA.

train transportation system³⁴. This can be seen on figure 1 that shows a negative correlation between the caloric value distributed through the rationing system and the number of passengers in one train for the period that precede June 1948. This indicates that the dark grey market was then really adjusting to change in the incentive to trade illegally because reducing the official ration increase the incentives to travel to farmers' house.

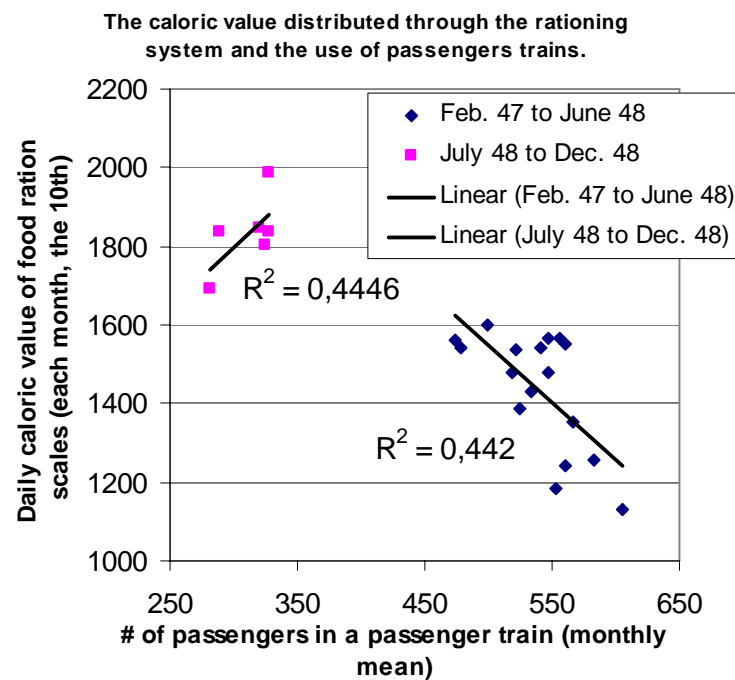


Figure 1: the incentives to trade illegally and the use of trains³⁵.

- **The black market:** Black trades were done in public places of almost every city³⁶

(*Tiergarten* in Berlin or *Viktualien Markt* in Munich, see figure 2 for the well-known

³⁴ In fact, travelling by train was very cheap before the monetary reform as train tickets were paid in Reichsmarks (which according to sources had lost most of its purchasing power except on the rationed market).

³⁵ All figures are index, basis 100 in January 1948. Sources: The caloric value come from various statistical annex of the OMGUS monthly reports (*IfZ*). The number of passengers per passenger train were calculated using the figures on transportation also publish in the monthly reports. The caloric value is taken at the 10th of each month and is the true caloric value that was distributed through the rationing system and not the one announced. Such discrepancies come from the fact that there were food shortages that prevents to distributed all of the rations announced. The index on passenger train use is computed using the numbers of passengers and the number of trains that have circulated in the US and UK zone during the month considered.

³⁶ In big cities, there was more than one market place. As for Berlin, Roesler (1989:92) indicates that 'The focal point of the black market were the main-line railway stations (...) Each of the twenty districts of Berlin also had its "own" local black market'. See also Erhardt (2003:76) e.g. the "Schwarzhaendler mit Kundendienst" paper in the *Suddeutsche Zeitung* of the 9th of August, 1946.

nature of black market places). This entails that both buyers and sellers had directed their search towards one of such places and that both had to find a trade partner that agree to exchange with. The cost of searching a double coincidence of wants was reduced as compared to the dark grey market by the fact that if the first seller/buyer does not want to exchange with you, you can be quickly re-matched with another trader. Transactions were paid in Reichsmarks or 'for such substitutes as cigarette or coffee' (Menderhauser, 1949:652). Many different types of goods were sold on the black market, from food, cigarettes, medicines to ID, jewellery, gold, dollars, bicycles, tires, cars and so on³⁷. Foodstuffs, except when they came from garden cultivation, were sold by intermediaries that have bought them in the countryside³⁸. There seemed that mostly foodstuffs, cigarette and alcohol were regularly sold while other examples have to be considered as anecdotal. This can be inferred from a look at the few lists of black market prices we found either in the archives or the newspapers³⁹. These lists indicate that these goods were only infrequently quoted while we always have a price for foodstuffs, tobacco stuffs, alcohol (and more infrequently clothes or shoes). These lists also indicate that black prices were mostly stable throughout the period⁴⁰. The prices people paid for those goods were far higher than the legal one. According to Menderhauser (1949:653-4), 'Information collected by the price supervision offices and the police indicated that in May, 1947 black market prices in the main cities of the

³⁷ There are few sources documenting precisely what kinds of goods were sold on each particular black market. For Bavaria, some of these lists can be found at the *IfZ* (OMGUS 1/194-1 folder 6, BICO U.S. cust gp; OMGUS 1/191/1/41 Bico), others at the *BHA* (OMGBY, FOD, branch D, marked 9/81, 1/22; OMGB-FOD, Branch D, Vilshofen, 9/76 - 2/15, *von Landratsamt Vilshofen, Preisbehörde*; OMGBY, 13/77-2/8 of September 1948, Economics Division), both in Munich, Germany. The Monthly Reports of the Military Governor, U.S. zone (OMGUS) sometimes mentioned such examples (*IfZ*)

³⁸ See e.g. the 'Star and Stripes' article 'Visitors finds food hoards in farm tour', 19 May 1947. But there are many examples like these.

³⁹ We have some lists for two major cities of Germany, Berlin and Frankfurt, those in which one can expect the most flourishing black markets. For Frankfurt black market, the reference is 1/194-1 folder 6, BICO US cust gp, folder title: Black market material, Nov. 45 to July 1946 (*IfZ*). As for Berlin, the lists are in 5/57-2/6 blatt 1/5 at the Berliner Landesarchiv. The *Tagespiegel*, the *Süddeutsche Zeitung* also published such lists.

⁴⁰ Some monthly reports provide the same statement (Monthly Report of the U.S. Military Governor, July 1946, p. 13 and Nov., 1946, p. 44; *IfZ*).

U.S. zone were about 100 times or more the legal prices for sugar, butter, coffee, saccharine, flour, lady's stockings, soap, flints; about 75 times the legal prices of oleomargarine, eggs, liquor; about 50 times the legal prices of potatoes, beef, Leica cameras; about 25 times the legal prices of coal, suits and dresses, automobile tires and gasoline'. These nominal prices were unaffordable for the majority of people if they choose to pay with their monetary wage or with their saving. But if we convert the Berlin prices into relative prices, we find much smaller prices as, for example, it takes 4,5 American cigarette packs to buy 1 kg of butter⁴¹ during the winter 1947 while it needs for a administrative assistant more than 2 months of regular work in order to buy the same quantity of butter. That reinforces the incentive to supplement rations through a direct search for goods rather than by increasing its official revenue.

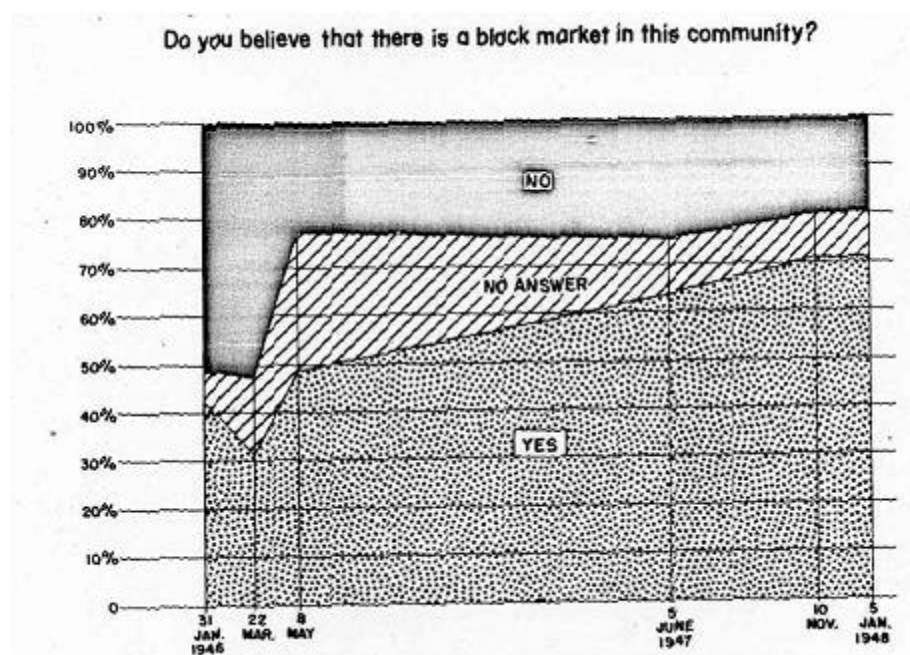


Figure 2: Survey on black market existence realised by the Office of Military Governor, U.S. zone

⁴¹This is also true for black relative prices of butter in cigarette packs in Frankfurt for quite each month of 1946. In January, one kg of butter was priced 4,2; in February 5,3; from March to May 4,7 and from July to September between 3,95 and 4,1. In the meantime, the average wage of an administrative assistant amounted to around 200 Reichsmarks (which allowed buying less than 3 packs of cigarettes in January and only 2 during summer).

One of the differences between the black and the two other markets seems then to have hinged upon a distinction in the type of population involved. According to Menderhauser (1949:653) 'the great majority of households and businesses considered their involvement in black market transactions as shameful, and the agents of the black market as immoral and asocial individuals'. But the grey and the dark grey market appeared as a 'method of regular, well established business while black marketing is that of the "fly by night" dealers, migrants and foreigners'⁴². Data on some 1947 Bavarian black market participants computed by the Bavarian Price Police and reports of the U.S. Army indicate a clear-cut qualitative difference. In big cities, 'today's black market exists largely because of the looting by Displaced Persons and, to a lesser extent, to the activity of troops in exchanging gasoline for eggs, butter and bacon in some areas'⁴³. Another survey on Garmish-Partenkirchen⁴⁴ (Bavaria) mentioned two other types of traders, i.e. 'civilians working or staying with American organizations' and 'Occupation Forces'. In richer agricultural areas, data shows a great proportion of farmers, although it is unclear whether their trade must be classified as black, grey or dark grey⁴⁵. According to the German Price Authority of Vilshofen (Bavaria), 40% of black market participants were displaced persons (DP) from eastern territories (east of former Germany and soviet-zone exiles), 40% farmers, 10% shopkeepers and the last 10% were foreigners.

2.2. Analyzing illegal market structure

Figure 3 sums up the two main decisions illegal traders must take:

- First a city dweller had to decide whether he/she travel to the countryside or wait in the city for those that will bring foods back from farmers. Those who travelled will be

⁴² In 'Note on Price Control', 06/18/1947, OMGUS #4/77 2-1, econ T&C blatt 4/5, IfZ.

⁴³ 'Survey of Price Control, Rationing and Black Market in all *Regierungsbezirke* in Bavaria except *Schwaben*, Report of a 1-week (15-22 June 1945)'; mark 1/177 3/8 Bico C+J, IfZ. See also the 'Big business' paper in Stars and Stripes of the 30th of December, 1945.

⁴⁴ Shelf mark 15/123 1/5 CID Blatt 2/2, Garmish (no date, no authors), IfZ

⁴⁵ OMGBY, FOD branch D #9/81 1/22 and OMGB-FOD branch D Vilshofen, 9/76 2/15 von *Landratsamt Vilshofen, Preisbehörde (BHA)*.

called “geographic intermediary” and the others “consumers”. Notice that in order for countryside goods to be available on one of the city markets, it must be that some agents have chosen to travel to the countryside. Assuming that these intermediaries were economic agents, they must have been paid for the service of delivering the goods to the consumers and this implies that the bid and ask spread between the countryside and the cities was positive. Illegal markets were then used (at least partly) to solve a problem of geographic intermediation⁴⁶.

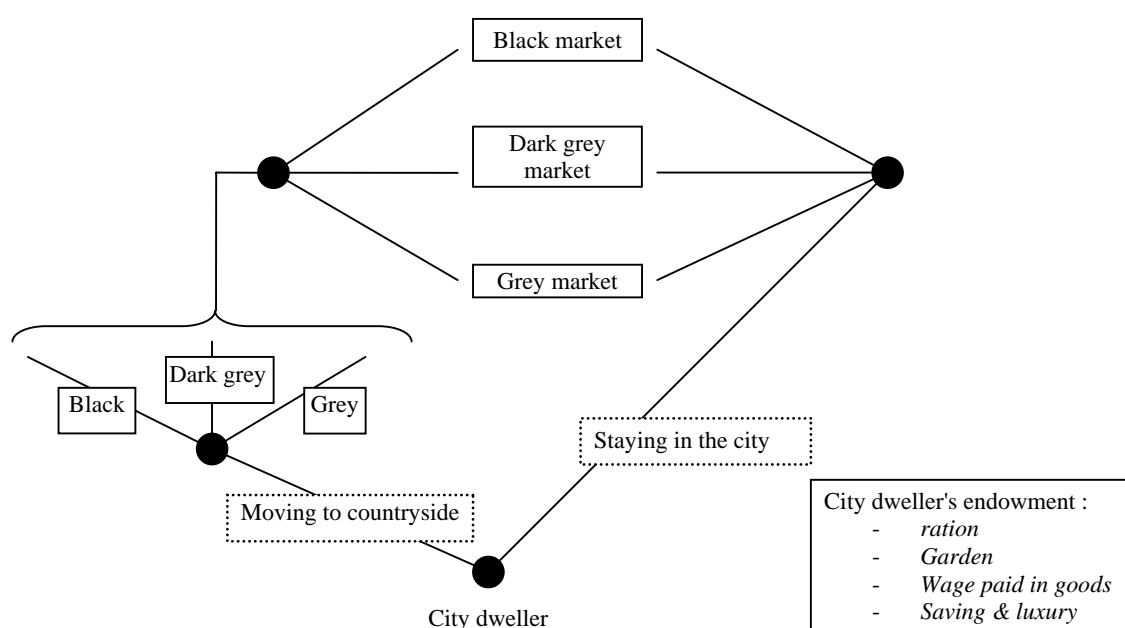


Figure 3: Agent's set of available strategy

- Second, whatever the choice made between consumer and intermediaries, an agent had to choose one market. This implied to arbitrage between the prices and transaction costs associated to each market. On the dark-grey and the grey market, prices were lower than on the black market but transaction costs were far higher. The difference in transaction

⁴⁶ According to a March, 1946 OMGUS poll cited by Merritt et al. (1970), 18% of the people interviewed had declared travelling to the countryside in order to buy goods. Note that in the sample interviewed, there were both city dwellers and rural people. Then this figure underestimates the proportion of the population that acted as a geographic intermediary

cost mainly comes from the differences in the transaction technology used on each market. Comparing these transaction technologies gives the following table.

	Matching technology	Degree of anonymity	Price mechanism
Grey market	Search in a pre-existing network.	Buyers and sellers knew each other before trading	Negotiation with an upper bound on the prices paid
Dark grey market (<i>Hamsterfahrt</i>)	Buyers (City dwellers) searched while sellers did not	Anonymous trade	Bargain prices
Black market	Both buyers and sellers has directed their search to one market place	Anonymous trade	Some degree of competition has to enter the determination of prices. Hard to know if there were price setting or bargaining

Each of these markets and each activity (consumer or intermediary) could have entailed different transaction costs. In any cases, the illegal nature of exchanges problems to enforce contracts and few solutions when the quality of the good bought did not correspond to the one expected. This was particularly important on markets on which people were anonymous and this could explain why most trades consisted in immediate trading. Conversely, the network nature of grey trade allows its traders to partly escape from these problems because of the cost of cheating in such long term relationships.

Some of these costs were paid whatever the decision the agent took as regard to his activity. On the grey market, the costs linked to the transaction technology were relatively low as few search cost had to be paid once the network was established. However, dealing on it required having social relationships in the countryside and (sometimes) setting up a network of clients in the residence location. On the dark grey market, transaction costs were mostly search costs. They came from the fact that most exchanges were done through barter while people cannot directed their search for a trading partner, i.e. for a seller of food that accepted as mean of payment the good hold. There were also transaction cost involved by the bargaining nature of prices due to the fact that for one trader the outcome of the negotiation depends of the utility the other trader get from the good bought. Black market exchanges

seemed to have implied less transaction costs linked to the characteristics of this transaction technology. As black market implied that there were many traders in the same place, the search for the needed double coincidence of wants had to be less costly. Moreover, this search was facilitated by the fact that the Reichsmark was accepted as a mean of payment, although at a big discount (Menderhauser:1949). Therefore, the bargained price has to be less sensitive to heterogeneity among traders because other traders are outside option for the bargaining pair. The following table summarizes the level of prices and transaction costs a consumer had to pay to trade on one of these three markets.

	Grey Market	Dark Grey	Black
Prices	“Moderate”	Bigger than on the grey but << black	Huge
Transaction costs	Few once 1 network is established	Big	Few

Table 1: Transaction costs and prices among illegal markets

Transaction costs of geographic intermediation could have been huge for two reasons:

First because of the cost of searching for a double coincidence in the countryside and the sensitivity of the barter ratio to the good hold. This could have motivated some intermediaries to sell their holding on the black market before travelling to trade in the countryside. The Herald Tribune (02/28/1947) provided such an example: When 'one Berliner has a large radio that he has decided to sell, he cannot conveniently lug it into the country in search of a farmer willing to give him butter for it. Instead, he trades it to a black marketer for cigarettes and takes the cigarettes to the farmer'.

Second because of the transport cost between city and countryside. This activity could have implied to travel more than one thousand kilometres (for example for those that live in Hamburg but bought fruits in Bavaria or shoes in Swabia). These costs were both a time and effort costs. As they were mostly fixed, each market efficiency also depended 1/ on the volume of goods that each intermediary can carried to the city and 2/ on the number of

consumers served by each intermediary. The transport cost charged to a given consumer has to be negatively related with the volume or the number of consumers on the market. On that dimension, the black market was the more efficient. On the grey or dark-grey market, the usual way to travel to countryside was train and a passenger can carry no more than 50 kg. On the black market, some black marketers used cars (thus carrying bigger quantities of goods) and their cost for searching consumers was lower than on other markets because of the centralised nature of this market. As for consumers, they have to pay a specific cost: the bid-and-ask charged by the geographic intermediary.

Summing up the analysis, we have analysed the illegal markets' choice by agents using two ingredients: 1/ the incentive to engage in illegal trade and 2/ the markets on which he could have done his trades. We have considered the most simple situation, the one in which one agent search to buy foodstuffs. Assuming that the utility he get is independent of the market he choose, the basic comparison of each market's transaction costs should be sufficient to give us the outcome of the game. When one compare the efficiency of each market with the strategies Germans effectively played, we find a striking feature as the black market seemed to be the most efficient active market while it was dominated in term of market share by the other markets. This exchange pattern had obviously an impact on the working time of agents as figure 4 shows a negative correlation between the proxy of the incentive to trade illegally and absenteeism by employees. This suggests that the market settings could have had some real cost for the society as a whole.

Finally, it is worth to note that people had some social preferences over the type of market people must traded on. For example, Menderhauser (1949:653) mentioned that 'the great majority of households and businesses considered their involvement in black market transactions as shameful, and the agents of the black market as immoral and asocial individuals'. And the grey and the dark grey market appeared as a 'method of regular, well

established business'⁴⁷. This can fully be explained as a by-product of the implementation of the anti black market legislation by the public authorities. As noticed above, this policy must have shaped the features of the centralized market by inciting its regular traders to acquire weapons or to organize themselves in mafia. As acquiring one of these technologies must be considered as being engaged in a criminal activity, it is therefore hardly a surprise if the population considered the involvement in black marketing as a shameful activity.

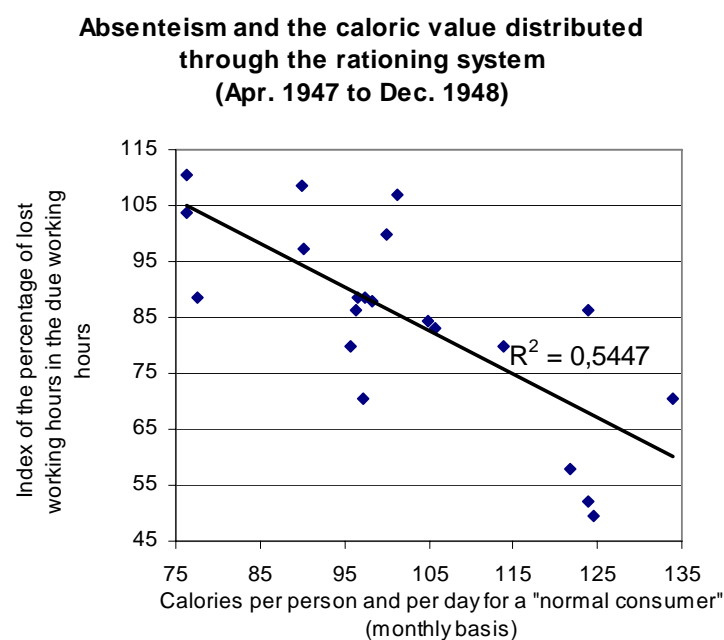


Figure 4: The incentive to trade illegally and absenteeism of employees⁴⁸

Conclusion

This paper provided an explanation of the coexistence of competing illegal markets based on the effect of the implementation of the anti-black market legislation. It was argued that the police fight of the centralized black market forced agents to adapt their trading strategies using one of the three following alternatives: First they had the option to resist it while still trading on the centralized market by forming mafia or using weapons; Second, they can have

⁴⁷ In 'Note on Price Control', 06/18/1947, OMGUS #4/77 2-1, econ T&C blatt 4/5, IfZ.

⁴⁸ All figures are index, basis 100 in January 1948. Data on absenteeism are from the periodic publication of the Bavarian statistical office called „Bayern in Zahlen“ (various issues of 1948 and 1949).

chosen to renounce anonymity by creating a network of regular traders among their friends and relatives. Lastly, they could have adopted more decentralized matching technologies thereby making more costly for the police to track their trades.

We further showed that this theoretical description explains well the structure of post WW 2 German illegal markets. Each market was associated with a given level of prices with the grey and the dark grey market having far lower prices than those of the black. Also, each option of this menu had some specific transaction cost associated to it. Decentralized matching technologies should have increased the transport and time transaction cost and notably the cost of searching for a double coincidence of wants. Belonging to some mafia or carrying weapons meant engaging in criminal activities and then having potentially to pay some social cost in terms of reputation. Finally creating networks implied having relationships able to sell the good needed. Agents' choice depended of course of their personal characteristics but also on their outside option. Undoubtedly, some were more equal than the others. Taking the example of refugees, they often had no relationship in the countryside which impeded them to create networks. Also, as they were freshly arrived in western Germany, they encounter fewer reputation losses when engaging in criminal activity. It is therefore hardly a surprise that many of the black marketers were refugees. Others that did not benefit from relationship in the countryside and whose cost of engaging in criminal activity was too high had no other option than choosing decentralized matching.

Of course, those prices controls and fight against illegal markets were implemented because the public authorities expected some benefits. For that episode, their main objective was to bar an open inflation process but this comes at the cost of the selection of a costly illegal market structure. This should have had an impact on the economic performance of Germany. To cite only one, a 1947 report of the Military Governor of the US Zone⁴⁹ indicated

⁴⁹ #21, Feb.-Mar 1947, p. 20, *IfZ*.

that "the economic function and significance of legal prices has been undermined by three developments: (1) compensation trade done at legal prices, chiefly among larger business firms, (2) barter without intervention of money and [legal] prices, chiefly between peasants and the rest of the population, and (3) trade at black market prices, chiefly between consumers and intermediaries and among the intermediaries."

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Appendix: Evolution and changes in the police fight of illegal trades

This appendix provided a detailed account of the methods used by the public authorities to impede the development of illegal trading.

The enforcement of the law continue with the defeat, contradicting – at least for Bavaria - the idea conveyed by the concept of 'Stunde Null', of a complete disorganisation of the German administrative bodies in the month following May, 1945. There are many examples of police raids against the different Munich black market places during July and August, 1945⁵⁰. The following report resumes these efforts⁵¹:

'In the following time the Military Government applied its power to assist the Bavarian Police with the result that the black markets existing in Munich and on the *Viktualien Markt* were stamped out almost totally. The black market and the illicit trades are continually and severely supervised by the Bavarian police.'

This huge enforcement policy against open black market places resulted in an increase in the number of stated price violations (figure 5). Two remarks are worth to notice. First, the path of the number of price violations per month increased sharply during the first year of the occupation and continued to increase from 1947 on, although the growth rate decreased for U.S. zone. The sharp increasing path of price violation between 1945 and 1946 may well correspond to the police effort to eradicate centralized black markets. The pattern of the U.S. zone curve in 1947 can indicate the effort devoted by the U.S. Army to improve its battle against the grey and the dark grey market. However, the decrease of price violations at the end of 1946 is striking as the method used by the U.S. Army seemed also to have changed⁵². Second, the number of fines linked to illegal trades paralleled to a lesser extent the number of price violations until November, 1945 and after that its growth rate seems much lower than the one of price violations.

⁵⁰ Cf. the Archives of the *Innerministerium* of Bavaria; mark MInn #72571, BHA.

⁵¹ Report of the August 9th 1945 for the Munich bezirk made by the *Regierungspräsident* of the *Preiseüberwachungstelle* to the Military Government, *Regierungsbezirk's* Det. F1H2; mark MWi 9621, doc. 232/16937 (BHA)

⁵² Monthly Report #17 of the Military Governor of the U.S. zone, November 1946: 'Various measures have been instituted by the German price offices to combat black marketing. The press and the radio have been used to educate the public on the inflationary dangers implicit in price control violations. Road checks have been established and unannounced spot-checks of various industries have been made.'

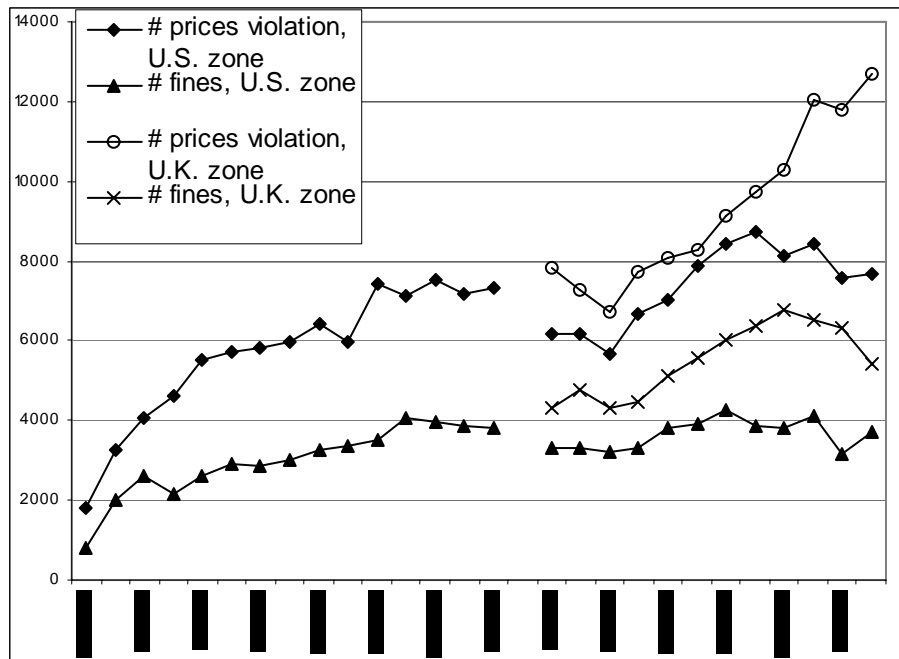


Figure 5: Number of price violations and fines for price violations between September 1945 and December 1947 in the UK and US zone of occupation of Germany⁵³

The efforts of the police against the centralized black market create the above predicted self-selection among black market participants⁵⁴. Police reports indicated the difficulty of supervising black marketers' action as it was e.g. impossible for the German Price Police to control a U.S. soldier dealing on the black market⁵⁵. Second, the black marketers found ways to avoid the supervision of the police⁵⁶. The black market then became far from an ideal free market, as Botting (1985:181) noted, 'A few people made a killing on the black market. These were the *Grossschieber*, or big-time operators (...). They ran illegal organisations. (...) They fixed the prices and kept order among the followers with the help of professional boxers'. Moreover, the black marketers organised in mafia that did not hesitate to attack policemen:

⁵³ Source: Monthly Report of the Military Governor, US zone, January 1947, April 1947; August-September 1946, November 1946, January 1948, *IfZ*..

⁵⁴ Report of the 07/10/1945 (mark 1/177 3/8 BICO C+J, *IfZ*): 'It cannot be emphasized too strongly that the D.P.'s [displaced persons] are the most powerful motivating force behind the black market since they effectively block any action by the German Police.'

⁵⁵ 15/123 1/5 CID Blatt 2/2 : Garmish (no date, no author) : 'German offices however emphasize always that the efficiency of their activities will remain low as long as the following conditions exist : a/ It was found that civilians working or staying with American organizations (...) are dealing on the black market to a great extent. Checking of those cases is not possible for the German police.' The report of the Chief of the German Police of Stuttgart stated that 'Proceedings against soldiers in uniform were of course entirely excluded.' (07/18/1945, mark 1/177 3/8 BICO C+J, *IfZ*).

⁵⁶ Black market report #21 for week ending May 2 1947 stated that 'Information continues to be received which indicates that many BM articles are shipped in Railways baggage cars either by passengers or by others persons who merely buy a ticket and then send the receipt to a receiver at the destination. BM operators boast that this is an infallible method since no check operations ever though the baggage cars and because baggage checked in a railroad station is never checked.' (OMGUS C.A.D., 15/122-3/13, blatt 1, Headquarters counter Intelligence corp region 4)

'The German price control official Zörrgiebel was on the 5th of July recognized by some foreigners, affronted and threatened. Two Moroccans who have called by the foreigners for assistance charged their guns in all publicity and carried Zörrgiebel away under the applause of the multitude. (...) The hostile position against the officials in most cases compelled them to pursue the buyers and to make the necessary statements out of sight of the foreigners.'⁵⁷.

As the enforcement of the price policy was easier in the city than in the countryside, some illegal trades moved to the countryside: 'The practice [of price violation and rationing laws] is widespread and particularly prevalent in small towns and villages where enforcement is lax or non-existent'⁵⁸. Moreover, those cases complicated the police's work since it was very difficult to prove that people contravened the law when the quantities held were small⁵⁹. The control over grey and dark grey trade between peasants and city dwellers also seemed to have been difficult to carry on⁶⁰:

The U.S. authorities tried to help the German police to deal with these increased problems of the supervision. The Military Police became more and more involved in descending on black market places⁶¹. It also supplements the German police in checking trains directly in the train station⁶². Germans reacted to this increasing enforcement by denying their participation in such dark-grey activities as noted in this letter of the American Consulate in Hamburg (North of Germany): 'As trains entered stations and it became obvious that a police check was about to take place, many passengers threw food stuffs and merchandise out of the windows or left them on the floor unclaimed in order to escape detection'⁶³. These elements can be used to explain the diverging path of the U.K. and U.S. curves in 1947. First, although the police adapted its methods to counteract illegal exchanges, the diverging path indicated that these changes were more successful in the U.K. Zone than in the US Zone. This could be the case if it was easier to convince people of illegal exchange at

⁵⁷ Report of the Chief of the German police of Stuttgart, (07/18/1945, mark 1/177 3/8 BICO C+J, *IfZ*):

⁵⁸ Report on 'Inflation and the Black Market in Germany', fall 1945, *IfZ*.

⁵⁹ Weekly BM report #14 for the week ending March 15, 1947: 'Examples such as these prove to be extremely hard cases to prosecute in the Courts due mainly to lack of evidence as to the illegal source and use of the goods.' (15/122 3/19 CAD 1/3, *IfZ*).

⁶⁰ 'The influx of black marketers and their wares from British and French Zones continues. All agencies interested in investigating and controlling black market activities considered this [as] the most difficult in that facilities and personnel are inadequate to check the movement of this type of operator.' (ibid).

⁶¹ 10/85 3/1 OMGBY Periodic report for week ending 11 September 1946: 'A raid to smash black-market near the Hauptbahnhof [main train station] in Munich was carried out by the 508th MPs [Military Police], at 1800 hours on 24 August 1946. The raid was covered by an Agent of the Munich SubRegional Office, dressed in civilian clothes to study the reaction of the German civilians involved. The raid was conducted excellently.'

⁶² The document mark 15/123 1/5 CID (*IfZ*) indicated the following 'Survey of illegal transportation of food from the American Zone: 57 passenger trains checked by the US army (and 105 not checked). 30% of passengers were checked. Average amount each held by each person checked: 27.5 lbs of food and 2 lbs of tobacco. Estimated goods leaving *Kreis* during the month of November: 354.75 ton.

⁶³ 'Black Market Activity in Hamburg', American Consulate; OMGUS 760/4 POLAD, *IfZ*.

their arrival point rather than at their departure station. And the U.K. zone was mostly industrial while the one of the U.S. was rich of foodstuffs).

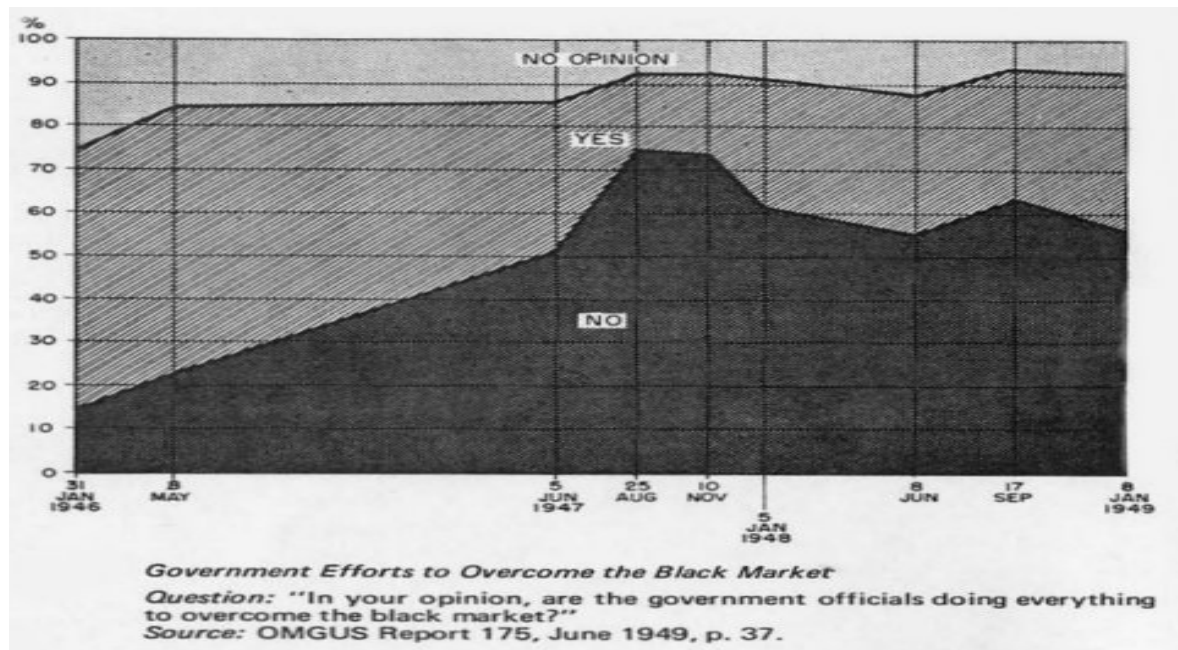


Figure 6: Survey on black market existence realised by the Office of Military Governor, U.S. zone⁶⁴

However, figure 5 underlines that 'Confidence in local officials' effort to stop black marketing declined sharply from January 1946 (60%), to September, 1947 (19%) but appears gradually to be rising. In January 1948, 30% thought local officials were doing all they could to overcome it. A year later, this figure has risen to 36%⁶⁵. This can indicate that the Authorities exerted huge efforts to eradicate illegal trades but experienced decreasing return to scale caused by the changes in the market settings used by illegal traders. However, we find two sources that indicate that the fight against the black market was directed towards active and big black marketers. In early 1947, the General Harmon of the U.S. army said that they have "stopped arresting the German who has a pack of cigarettes. He's the little guy. We're interested in the big criminal now, and we're catching them" (Enssle, 1987:496). One year later, the newspaper *Süddeutsche Zeitung* in his edition of the 27th of January 1948 said that one police raid was directed to arrest the big dealer and not the housewives⁶⁶.

⁶⁴ Cited in Merritt et al. (1970), p. 22.

⁶⁵ OMGUS ICD, Trends in economics, *IfZ*.

⁶⁶ The exact quote is: „Notgesetz gegen Hamsterlager. Die Aktion gilt den Schiebern – nicht den Hausfrauen"