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CRISIS CARTELS

Background Note

-- Session III --

This background note was prepared for the Secretariat by Simon J. Evenett, University of St. Gallen and CEPR. It is submitted under Session III of the Global Forum on Competition to be held on 17 and 18 February 2011.

The views expressed in this paper are the personal responsibility of the author. They should neither be attributed to the OECD Secretariat nor to OECD member countries. The author welcomes comments and corrections of factual errors, which can be sent to him at the following email address: simon.evenett@gmail.com.

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CRISIS CARTELS

-- Background Note* --

1. Introduction

1. Pronounced downturns in economic activity have been known to induce substantial changes in the ends and means of policymaking in both developing and industrialised economies. Sometimes those changes are temporary (such as the rediscovery and the abandonment of active fiscal policies in many jurisdictions during the past three years), sometimes the changes are longer-lasting (such as the recently approved changes to banking regulation, known as the Basle III accords.) Abrupt shifts in policymaking are not confined to these policies, however, regulation, tax, and sector-specific policies have changed in response to economic crises as well.

2. Bearing in mind the substantial dislocation created by the recent global economic crisis, the purpose of this paper is to consider whether changes in policies towards cartel formation are merited during economic crises and the associated recoveries. To examine this matter evidence from both developing and industrialised countries on the treatment of cartels during previous "crisis" episodes, taken to be when economic activity has declined substantially, is summarised here. A significant fraction of the evidence presented here relates to eras where industrialised countries were at earlier stages of development. An important question to be addressed is whether that latter evidence has any contemporary relevance for developing countries.

3. Where available, pertinent evidence from the recent global economic downturn is presented and complements the historical information on the apparent motives and consequences of crisis-era approaches to cartels as well as the assessments of various analysts about the effects of such cartels. All together, this evidence can better inform assessments of the pros and cons of the various possible crisis-related approaches towards cartels.

4. That this question is being asked at all may come as a surprise to those who have followed developments over the past decade or so towards more active cartel enforcement. After all, an ever larger number of jurisdictions have enacted cartel laws or reformed their laws expanding enforcement capabilities, reducing exemptions, and stiffening penalties for breaking these laws. International norms on cartel enforcement have been developed (OECD 1998) and the sharing of best practices on cartel enforcement intensified (OECD 2005). Numerous studies from both developing and industrialised countries speak to the harm done by cartelisation to buyers and to others (Levenstein and Suslow 2005,

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2007; Connor 2007). Moreover some of those cartels, such as export cartels, exploited exemptions from national cartel laws, just as some crisis-era cartels have.

5. Nevertheless it cannot be taken for granted that the evidence that persuaded many of the merits of strengthening cartel enforcement during stable economic times will be as persuasive when policymakers face economies with high levels of unemployment, potential social instability, and low or volatile levels of demand. Even if national competition laws are not revised during an economic crisis, the circumstances under which those laws are enforced may evolve markedly, including the resources made available to competition authorities and the performance measures by which such authorities are judged. There may also be implications for the types and extent of competition advocacy undertaken by officials. The evidence assembled in this paper may also inform discussions on these policy choices should they arise in national fora.

6. The remainder of this paper is organised as follows. Section two defines the parameters of this paper, emphasising the focus is on cartels and not on other forms of collusion. Moreover, considerable attention is given to what turns out to be rather a broad set of considerations relevant to assessing crisis cartels. The third section summarises evidence about crisis cartels from national economic downturns and associated experiences. The fourth section is similar to the third but focuses on crisis cartels implemented in specific sectors. Evidence, such as is available, from the recent global economic downturn is presented in section five.[1] The options available to policymakers are then summarised in section six. Whether the case for crisis cartels has been convincingly made is discussed in the concluding section of this paper along with a review of the main findings.

2. What are crisis cartels? Definitions and first principles

7. To prepare the ground for subsequent sections the distinction between cartels and crisis cartels is introduced as the term crisis cartel has different meanings to different people. Contested definitions are then compounded by a contested economic analysis of crisis cartels. Whenever an observation appears particularly contentious, or its logic potentially unclear, the ensuing summary will resort to quotations.[2]

2.1 Cartels and crisis cartels

8. The focus of this paper will be on the types of explicit agreements between firms[3] that compete for the same suppliers or customers. These agreements among private or public firms include those to fix prices, set quantities, set market shares (or, more generally, determine market allocation), and to rig bids.[4] Forms of tacit collusion and other anti-competitive practices are not within the purview of this study.[5]

9. The term crisis cartel is used in at least two ways in the existing economic literature. First, a crisis cartel can refer to a cartel that was formed during a severe sectoral, national, or global economic downturn

1 The country contributions received for this session also provide information on some contemporary crisis cartels. The useful information contained therein is not repeated in this paper.

2 The use of quotations here limits accusations of misrepresenting or poorly summarising the argument in question.

3 Notice the word "firms" is used not the phrase "private firms," leaving open the possibility that state-owned or state-influenced firms could be members of a cartel.

4 This definition is silent as to which party instigated the cartel agreement. As will become clear below, governments may instigate, encourage, and even enforce cartel agreements among private firms.

5 This is not to imply that these other forms of anti-competitive practice are unimportant, during crises or otherwise.

without state permission or legal sanction. A second use of the term crisis cartel has been to refer to situations where a government has permitted, even fostered, the formation of a cartel among firms during severe sectoral, national, or global economic downturns, or when national competition law allows for the creation of cartels during such downturns. Sometimes the second use of the term is synonymous with the terms depression cartel, recession cartel, and restructuring cartels[6], all of which indicate an excess of production capacity over current demand levels at the sectoral or national levels. Examples of both types of crisis cartel are given in sections 3-5 of this paper.

10. Both notions of the term have implications for the enforcement of cartel law: the first notion represents a challenge to enforcers, the second may place the cartel in question beyond the reach of enforcers.

11. In what follows each notion is considered in turn. First, however, the contested views on the harm done by cartels during economic crises are summarised. The associated disagreement over the economic effects of a cartel during an economic crisis does much to account for the differences in view about the optimal enforcement of cartel law and whether exemptions to cartel law should be granted during economic crises.

2.2 The contested economics of the impact of cartels during crises

12. Much contemporary antitrust enforcement appears to be influenced by the neoclassical analysis of the impact of cartels on otherwise well-functioning markets. This analysis is to be contrasted with that of some development economists who take as their starting point imperfectly functioning markets, a cause of which could be over-capacity that tends to be observed during sectoral, national, and global economic crises.

13. Neoclassical analysis highlights the point that cartels typically involve private agreements that limit quantities sold, thereby effectively raising prices.[7] In turn this both transfers income from buyers to sellers and reduces the allocative efficiency of the market mechanism. These arguments provide an economic justification for laws outlawing cartels and for implementing rigorous cartel enforcement regimes, even during economic crises.

14. When the buyer is a government, then cartelisation erodes the value for money obtained during public procurement processes, a particularly important effect during a crisis-induced era of austerity. When the buyers are private consumers with low incomes, or state purchasers of goods and services used to supply public services to the poor, then cartelisation can have deleterious consequences for the most vulnerable sections of society. On both efficiency and equity grounds, then, neoclassical type of analysis takes a dim view of cartelisation.

15. It should be noted, however, that some neoclassical analysts have argued that cartels unenforced by the state are inherently unstable. They reason as follows: Given that a cartel represents an artificial restriction on the total amount of goods trade, each cartel member could find additional customers willing

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6 It may be the case that certain jurisdiction's competition laws also contain definitions of these terms.

7 Although economic terminology is kept to a minimum in this paper, some is necessary if the key points of certain arguments or the key points of contention are to be stated precisely. Incremental production costs equal the increase in total costs incurred as a result of producing the last unit of output. When markets are operating well, the incremental production cost equals the cost to society of all of the resources employed producing the last unit of a good. A market is said to attain allocative efficiency if the price paid by a customer for the last unit of the good sold covers the total cost to society of producing the last unit, that is, if the price paid equals the incremental production costs.

to buy the product at the cartelised price. An important consideration for any cartel is how to prevent members from seeking to do so secretly, acting thereby in a manner that is ultimately contrary to durability of the cartel. This logic has been employed by some to call into question the necessity of cartel enforcement regimes if cartels are essentially unstable and dissolve over time. Of course, it is an empirical question just how stable cartels are and whether the harm done by cartels during their existence still merits enforcement (Levenstein and Suslow 2006).

16. In contrast to this well-established line of thought, some development economists have argued that the harm done by the price-increasing effects of cartels pales when compared to certain benefits of cartels. Chang (1999) contends that the harm done to buyers by firms operating in a cartel at near full capacity can be much less than forcing firms to compete at sub-optimal output levels:

> *"Economists have traditionally debated on whether the social cost of monopoly is 1% or 2% of total output, but in industries with significant scale economy, choosing a sub-optimal scale of capacity can often mean 30-50% differences in unit costs" (page 10).*

17. In industries where incremental production costs fall as output levels rise, following this view seems to imply allocating a given total level of market sales to fewer firms would enable each firm that produces to attain lower costs.[8] Moreover, in such industries when overall demand for a product falls -- as is likely during an economic crisis -- incremental production costs would rise for the surviving firms. On this view, but for the creation of a market allocation cartel, prices may rise even more.

18. Ultimately, then, evaluating this argument requires taking a position on what does more harm to consumers: the exercise of any market power by the cartel or the higher prices necessary to cover costs associated with competition between firms in industries where unit costs fall as output rises. Plus there may be concerns that governments do not have the necessary information to optimally allocate market shares, although the firms concerned may be willing to share such information.

19. Chang argues that governments in East Asia have taken this approach to cartel formation on board, at least during the earlier stages of their development processes. In his opinion "…their attitude has been that monopolistic firms producing at optimal scale is much less of a drag to the economy than 'competitive' firms all producing at sub-optimal scales" (page 10). Unfortunately no statement by a policymaker is provided to support this contention.[9]

20. Without this alternative to the neoclassical perspective, the question of whether cartels should be treated differently during economic crises would be moot. Indeed, to the extent that economic crises increase the incentive to cartelise the standard response is likely to be that competition agencies need to be more vigilant during economic crises. In the next section this matter is considered in some depth, before turning to the second notion of crisis cartels articulated earlier.

2.3 The impact of crises on the incentive to cartelise

21. This discussion should begin with two initial comments. First, the impact of a crisis on the incentive of firms to cartelise will depend on the nature of the crisis, be it sectoral, national, or international. In each case a crisis is taken here to refer to a deterioration in economic performance indicators (such as demand) beyond that associated with a typical business cycle downturn. Second, in

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8 Taken to the limit, if incremental unit costs always fall as output increases, on this logic one would allocate all sales to a single producer. There would be no need for a cartel here, rather the creation of a monopoly.

9 Whether this view is best thought of as an ex-post rationalisation or an accurate reflection of commonly held views of policymakers during East Asia's fast growth period remains to be established.

thinking through the impact of each type of crisis on the behaviour of cartel members it will be useful to identify the ways in which the crisis affects the business environment and, more importantly, the incentive to cartelise or to remain a cartel member.[10] Fortunately, there is a well established logic for thinking through such matters.

22. At the time a cartel is formed each potential member will have to gauge whether the gain from joining (G_1) - the net present value of profits associated with price-fixing etc - net of any fines (F) and other punishments that occur following successful cartel enforcement, which is expected to occur with probability (p), exceeds the profits (G_0) associated with continuing to compete with rivals in the traditional manner. In short, participating in a cartel is rational for a firm if:

$$\left(G_1 - pF\right) > G_0 \Rightarrow \left(\frac{G_1 - G_0}{p}\right) > F$$

23. Once a cartel is established, each member will have to determine whether remaining a cartel member is more profitable than "defecting." That is, whether deviating from the cartel accord -- including potentially providing evidence of the cartel's activities to the authorities, possibly in return for reducing sanctions or leniency -- offers the prospect of greater longer term profitability than adhering to the cartel accord.

24. Different types of crises are likely to affect the incentive to cartelise in different ways. For example, a sectoral crisis may be associated with reductions in both the expected profit from cartelising a given market (G_1) and the expected profit from competing in the absence of the cartel (G_0). Reductions in the former may limit the maximum fines that can be imposed on cartel members without bankrupting them. Hence the fines (F) imposed during a crisis era may be less than during normal business conditions, which in turn increases the incentive to create and sustain cartelisation.[11]

25. An international economic crisis, which by definition affects more than one jurisdiction, may see the factors mentioned in the paragraphs above apply simultaneously across many markets that a group of firms operate in. Indeed, to the extent that a global economic crisis is expected to lower fines on cartel members in many jurisdictions, it is possible that a cartel that otherwise would have confined itself to cartelising one national market may now find it profitable to cartelise multiple national markets. No doubt other logical possibilities exist.

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10 Although Stigler (1964) is the canonical reference concerning the relationship between the various aspects of the business environment and the incentive of private firms to form cartels, Alfred Marshall and Joseph Schumpeter both discussed previously the formation and effects of cartels and their German origins. According to Kinghorn (1996) the earliest writings in German about *Kartells* were by Friedrich Kleinwächter in 1883. It is noteworthy that early German writers were said to stress the ability of kartells to bring supply into line with demand and to frustrate the domination of a market by a single firm, both of which these authors saw as advantages. Later writers, mainly in the neoclassical tradition have associated cartels with the exercise of monopoly power. See Kinghorn (1996) for a summary of these different perspectives.

11 Levenstein and Suslow (2010) examine the incentives created by the fact that, to avoid bankruptcies that almost surely reduce competition in a market, some competition authorities have reduced the fines paid by cartel members that they have prosecuted successfully. Unless there are other means of punishing cartel members and associated executives, this development may reduce the deterrent value of cartel enforcement. The potentially perverse incentives created by taking the potential for bankruptcy into account when fining cartel members has also been explored by Stephan (2006).

26. There are two policy-relevant points to take away from this analysis. First, economic crises alter the incentives faced by firms to engage in cartelisation. Some of those incentives shift in favour of cartelisation. Second, as crises differ in their depth and scope (number of markets affected) and the incentives generated by each crisis may differ. Thus, generalisation across sectors and time may be hazardous.

2.4 Arguments frequently advanced in favour of state-encouraged crisis cartels and exemptions from cartel law relating to economic crises

27. As noted earlier, the second notion of crisis cartels relates to cartels that are permitted or encouraged by governments during sharp economic downturns or to the application of crisis-specific exemptions from cartel law. The different motives underlying a policy towards crisis-cartels can be distinguished from historical experience and from some of the theoretical considerations mentioned earlier (Chang 1999, Feibig 1999). It being accepted that the following motives are not necessarily consistent with one another, these motives could include:

- Limiting or avoiding employment losses.
- Facilitating rationalisation of a sector with excess capacity.
- Promoting innovation by facilitating co-operation between otherwise rival firms.
- Promoting productivity improvements by facilitating co-operation with the workforce.
- Stabilising prices, even promoting consumer welfare.
- Avoiding "ruinous" competition that denies firms the necessary profits for reinvestment.
- Preserving a proportion of the total market for favoured firms, including domestic firms.
- Avoiding a widespread backlash against cartel law, competition law, and their enforcement.

28. Even if a crisis-era policy towards cartels and cartel law enforcement has an established motive, or motives, that does not imply that the policy is necessarily "justified”. Evaluation of the relative merits of a specific policy proposal turns critically on the evaluation criteria and the alternative policy options considered. With respect to evaluation criteria, economists typically distinguish between so-called economic welfare criteria (consumer surplus and total welfare) and all other criteria, which are referred to as non-economic criteria.[12]

29. Moving from the more general to the specific, in principle, a policy towards crisis cartels could be justified in any one of the following ways:

- The policy as implemented raises consumer surplus (or economic welfare) more than any alternative policy considered.

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12 Non-economists often balk at this long-standing and widely-used distinction employed by economists. Surely, the goal of limiting job losses is "economic" in nature and labour market transactions are economic transactions. However, the distinction being made here is between evaluation criteria that refer solely to the gains from mutual exchange in markets (consumer welfare and total welfare) and other objectives.

- The policy as implemented attains a numerical target associated with a chosen non-economic objective at a lower cost than any alternative policy considered.[13]

- Given a non-economic objective[14] and the willingness of policymakers to trade-off attaining this objective against to the costs of doing so, then a crisis cartel is said to be justified if the associated contribution to the stated objective and the cost incurred -- as evaluated by the policymaker -- is the most beneficial option available.

30. Several comments on these three "tests" are in order. First, a crisis cartel policy may have effects in more than one national jurisdiction. A national policymaker may, however, regard a cartel policy as justified if its effects within a jurisdiction meet one of the above criteria. This raises the possibility that a crisis cartel policy is "justified" from a certain national perspective, but "not justified" from a global perspective.

31. Second, all of the effects of a crisis cartel policy should be considered, including the consequences of the policy for propensity of cartels to form or disband in the future as well as the economic consequences of such changes, appropriately discounted. It may be the case that the full effects of any contemporary crisis cartel policies are not known for many years, hence the inclusion in this paper of a review of the historical evidence.

32. Third, there is no reason to suppose that the national policymakers' preferences are the same across countries or time. Therefore, if any particular crisis cartel policy from the past was found to be "justified", then it does not follow that the application of this policy is justified now. Moreover, the set of available policy options may differ over time. For example, governments now may be willing to give firms in difficulties subsidies and bailouts whereas in the 1930s this may have been regarded as anathema. Evidence from other countries and time periods must be interpreted carefully. Typically, additional analysis is needed to establish whether a crisis cartel policy that may have been considered justified in certain circumstances remains so in other circumstances. It is not appropriate to selectively use historical examples to one's liking and claim contemporary relevance for them.

33. These considerations also help evaluate the evidence that is presented on crisis cartel policies. Box 1 summarises the questions that might be asked in an evaluation of policies towards cartels during an economic crisis.

13 For example, suppose a government wants to limit employment losses in a sector to five percent. A crisis cartel policy that ensures that employment losses are no more than five percent is said to be justified if there are no other policies that could attain the same result at lower cost to society, in terms not only of government outlays, but of lost consumer welfare and the costs of any resource distortions incurred by firms.

14 Such as productivity growth within a given sector.

Box 1. Sorting through the evidence on crisis cartels

Although quite a few papers have been written on the crisis cartels policies of different countries and in different sectors, the purpose of those papers was not always to assess whether the policies were justified in the sense described before. For competition authority officials and others seeking to extract the key lessons from the existing literature allowing them to better assess the merits of crisis cartel policies, the following questions may be useful:

- Are the differences between the crisis cartel policy and the policy it superseded, if any, accurately and clearly explained?
- Are the motives of the crisis cartel policy precisely formulated?
  - If not in what ways, if at all, does the subsequent evaluation take account of any vagueness in the specification of the motives?
- Which criteria, if any, were used to evaluate the performance of the crisis cartel policy?
- Has the extent to which the crisis cartel policy outperformed alternative policies been demonstrated in a quantifiable manner?
- Given the stated motives of the crisis cartel policy, was the choice of evaluation criteria appropriate?
  - Is the set of criteria complete? Is there a criterion to cover each motive?
- Was the set of viable alternative policies to the crisis cartel policy rich enough?
- Is the contemporary relevance of the study's findings vitiated by differences in either
  - the preferences of policymakers (between now and the epoch under study), or,
  - the set of alternative policies available to decision-makers, or,
  - the type of economic crisis and its consequences?

Asking these questions will also help focus evaluations on the factors that are central for determining the contemporary relevance of studies of prior crisis cartel policies.

As will become clear in the sections that follow, many of the extant studies do not conduct evaluations along these lines. In contrast, much more is known about the stated motives of policymakers. Whether their actual motives correspond to their stated motives is rarely discussed. Moreover, very little is known about the extent to which policymakers are prepared to trade off different objectives, such as consumer welfare and employment levels.

34. The purpose of this section has been to define what is meant by crisis cartels and to distinguish them from the ordinary meaning of the term cartel. Moreover, the contested logic concerning the impact of cartels during economic crises was described, not least because it motivates potentially different policies towards cartel enforcement and the granting of exemptions from cartel laws during economic crises. With respect to the latter, the motives for granting such exemptions were stated and a framework proposed for thinking through whether any such exemption could be justified.

3. Historical evidence on crisis cartels from sharp economy-wide downturns

35. To facilitate comparison, the evidence on crisis cartels presented in this paper is divided into three parts, reflecting differences over time and differences in type of crisis. In this section information about policies towards cartels applicable during prior economy-wide crises is summarised. This is to be

distinguished from evidence on crisis cartels that have arisen during sectoral crises. Contemporary evidence on crisis cartels, to the extent available, can be found in the fifth section.

36. This particular organisation of the evidence on crisis cartels will highlight different factors affecting the design, implementation, and consequences of policies towards crisis cartels. Perhaps unsurprisingly, this section, with its focus on economy-wide crises, highlights system-wide choices taken with respect to crisis cartels. The next section highlights factors and evidence that is much more case- or sector-specific. All of these factors are relevant to developing an overall assessment of previous policies towards crisis cartels.

37. To facilitate discussion the evidence in this section is presented in alphabetical order by jurisdiction. It is important to stress that this evidence is historical in nature. Therefore, it should not be assumed that contemporary law or enforcement practice necessarily bears any resemblance to earlier epochs.

3.1 Chinese Taipei up to and including the East Asian Financial Crisis

38. The OECD Secretariat paper for the 2006 Peer Review of Chinese Taipei's competition law notes that in earlier times the trend of policy was generally speaking towards restricting inter-firm rivalry. OECD (2008) states:

> *"Policy attention to market competition has a long lineage, although the usual tendency was to suppress it. Rules against monopolisation and price-fixing can be found as far back as the code of the Tang dynasty. But central control has also been prominent. Cultural distrust of traders led readily to reliance on price controls and state regulation or ownership of resources and production. The private sector joined in anti-competitive restraints. Guilds were enforcing price fixing agreements at the turn of the 20th century. As late as the mid-1980s, courts in Chinese Taipei were entertaining private competition suits in the form of complaints that competitors were cheating on cartel agreements. Meanwhile the government commonly intervened to protect the interests of enterprises." (page 130).*

39. Even when a new Fair Trade Law (FTL) was enacted in 1991 provisions exempting crisis cartels from a prohibition on cartelisation were included. Moreover, other exemptions that might plausibly be invoked in economic crises were included such as "uniform specifications (to reduce costs, improve quality or increase efficiency), joint research and development, specialisation and rationalisation of operations, export cartels, import agreements, … and agreements among SMEs to improve efficiency and strengthen competitiveness" (page 134).

40. Interestingly, since the FTL came into force, there have been few applications for crisis cartels. In this regard, OECD (2008) notes:

> *"Crisis cartel applications are rare. Joint action to limit output or stem price cuts in an economic downturn would be permitted only if conditions in the market have driven the market price below "average production cost" and firms are threatened with exit or overproduction. It is not clear whether "production cost" means variable cost or total cost. In any event, there have been few requests for exemption on this basis. The FTC (Fair Trade Commission) rejected an application for a capacity-reduction agreement among fibre manufacturers in 1998, on the grounds that conditions were not irretrievable and the market was likely to recover."*

41. This example demonstrates that competition authorities do not always have to accede to demands for crisis cartels. The small number of requests for crisis cartels, especially during the East Asian Financial Crisis which affected export-dependent Chinese Taipei significantly, begs the question as to what, if any,

other forms of relief were available to firms during that crisis. The presence of alternative policy instruments may well have shielded the competition authority from pressure to compromise the enforcement of cartel law.

3.2 Germany in the late 19th Century[15]

42. The apparent motivation and rationale for crisis cartels in Germany in the late 19th Century has been documented in a number of studies. Cho (2003) argues

> *"Cartels were historically recognized as legitimate by both the courts and governments distrustful of unbridled competition. In some cases, independent companies were required to join cartels if they wanted to operate properly" (page 46).*

43. Cho goes on to argue, however, that the cartels became an important instrument of government policy during subsequent boom times[16], so much so that it has been contended that "after the First World War the country became the most cartelized nation in the world" (page 45).[17] Given the impressive economic growth experienced in Germany during 1870-1913, a period during which it overtook the United Kingdom in terms of annual production of industrial output, links between crisis-induced cartels, cartelisation in general, and improved economic performance have been identified by some analysts.

44. As several authors have made clear, at the time the German attitude to cartel formation was markedly different to the manner in which cartels were to be subsequently viewed elsewhere, not least in the United States. The following quotation from Kinghorn's analysis of German cartels at the end of the 19th century reveals not just the differences in thinking but, more importantly for the purposes of this background paper, how those differences relate to the motivation for cartelisation. Kinghorn (1996) argues:

> *"The neoclassical association of cartels with monopoly is a recent phenomenon in the history of economic thought. The first German economic work on kartells was written by Friedrich Kleinwächter in 1883. He argued that the kartells were an extension of medieval guilds, and applied the same theory to the kartells as was previously applied to guilds. Other scholars argued kartells evolved from the guild system in response to a growing market, and the associated increase in risk. They suggested that two important functions were served by the guilds, and later by the kartells: the adjustment of supply and demand to stabilize an industry, and the hindrance of monopolistic (single-producer) tendencies. The view that collusion among producers would serve to restrain, rather than promote monopolistic tendencies seems antithetical to the modern reader. The concern in this literature regarding monopoly power was a concern that one large producer would monopolize an industry in a given market, not that horizontal cooperation would foster a monopolistic outcome" (page 1).*

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15 As Newman (1948) handily demonstrates, the fate of cartels in Germany in the Great Depression of the 1930s was heavily influenced by the desire of the Nazi government to control private sector production in the run up to and during the Second World War. Cartels became ever more tightly regulated (but not prohibited) and by 1943 ninety percent of existing cartels were said to have been dissolved or in the process of dissolution. It is not clear that this particular experience has contemporary relevance. Chapter V of Gerber (1998) provides a detailed account of the evolution of cartel law in Germany in the interwar years.

16 Here Cho refers to the famous judgement of the Reichsgericht (Supreme Court) of 4 February 1897 that made cartel agreements legally binding and to an Ordinance Against Abuse of Economic Power enacted on 2 November 1923, the first formal cartel law. Subsequently, general rules on cartels were included in the Act Against Unfair Competition.

17 Cho cites Berghahn (1986) in defence of this proposition.

45. At least one of these motives may bear upon crisis-related cartel formation in so far as a key feature of a sectoral crisis is a substantial mismatch between total demand and supply.

3.3 Indonesia during the East Asian Financial Crisis

46. The East Asian Financial Crisis, which began with Thailand's devaluation of the Baht in July 1997, quickly spread to Indonesia. According to Iwantono (2003), the resulting economic crisis in Indonesia lasted from 1998 to 2003. Indonesian policy towards cartels appears to be mixed during this crisis even though a competition law with relatively clear provisions on cartels was enacted in 1999. On the one hand, the collapse in aggregate demand was thought to have disrupted many cartel arrangements without any official action being taken. Moreover, the newly founded (according to Iwantono it was indeed the crisis that allowed the introduction of the competition law in 1999) Indonesian competition authority (KPPU) recommended that the government abolish the airline industry cartel and that advice was taken.

47. Yet, as Iwantono (2003) reports, during the crisis the KPPU did not recommend the abolition of "cartel activities" in the large sugar industry. The competing considerations that a competition authority may face - and almost certainly governments face - are neatly encapsulated by the following statement from Iwantono:

> *"For the time being, the KPPU has concluded that the policy [in the sugar sector] may give rise to unfair business practices. The five importers who (sic) dominate the market and tend to carry out cartel activities among themselves in order to maximize profit.*
>
> *"The KPPU faces a dilemma, because the sugar policy has both economic and political nuances. Abolishing the policy would have significant economic and political impact. By letting imported sugar in, Indonesian sugar cane farmers will be in a very disadvantageous position since the imported sugar has already received subsidies from the respective producer governments. On the other hand if such policy is maintained, it will constitute an entry barrier that has the potential to trigger cartel activities in the sugar business.*
>
> *"The KPPU holds the opinion that the Government has the obligation to protect the local sugar cane farmers from the threat of cheap imported sugar and a policy for such protection is politically appropriate but is inconsistent by itself with Law No.5/1999." (page 6)*

48. One question that arises from this example is whether the Indonesian government could have protected local sugar cane farmers without relaxing cartel enforcement. For example, as a member of the World Trade Organization, Indonesia has the right to impose tariffs on subsidy-ridden imports that have caused material injury to a domestic industry. Imposing a so-called countervailing duty on imported sugar cane could have been an alternative policy option. It is not known if the KPPU considered the latter option in its analysis or competition advocacy.

3.4 Japan in the post-war era

49. While cartels were first legalised in Japan in 1925, experience after the Second World War when Japan's economic growth accelerated is of greater interest, not least because the Japanese government created different types of crisis-related cartels. The focus here is on the available post-war evidence as it relates to so-called depression cartels and to sectors in economic decline.[18] While the government

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[18] The latter being relevant as the apparent decline of a sector may have been established or confirmed by an economic crisis in that sector.

interventions described here have often been associated with post-war Japanese industrial policy, no attempt is made to summarise the contentious debate over the latter.[19]

50. As for the motivation for recession cartels, drawing on a leading analysis of Japanese industrial policy Weinstein (1995) explains the relationship between recession cartels and sectoral performance:

> *"Yamamura suggests that a major reason why Japanese firms could invest in new plant and equipment with less risk than firms in other countries was that they knew that they would be allowed to form cartels during downturns. By shoring up profits with cartels in recessions, it is argued that MITI [the Ministry of International Trade and Industry] made it more profitable for Japanese firms to invest and thereby raised Japan's overall growth rate" (page 201).*

51. If this explanation is correct, then, having taken account of the other determinants of profit margins, recession cartels should increase such margins.

52. Okimoto (1989) argues there is a competition-preserving motive for recession cartels. He argues:

> *"The rationale for anti-recession cartelization is that it pre-empts fratricidal warfare; it keeps the level of market concentration from increasing….In the long run, MITI officials used to argue, the imposition of some control over excessive competition through temporary anti-recession cartels was necessary to ensure that healthy competition would be sustained" (page 7).*

53. As to the logic underlying these rationales, the former appears to be predicated on the assumption that firm investment outlays are largely determined by internally generated funds (i.e. profits). With respect to the latter rationale, assumptions appear to be made about the lack of any disciplining effect of subsequent new entry and the inability of government authorities to influence the behaviour of whatever small number of firms survives the "excessive competition" induced during recessions.

54. Weinstein also notes that during the era 1957-1988 Japanese antitrust enforcement was lax and that MITI did not have the resources to enforce compliance with the great majority of cartel agreements. Perhaps more tellingly, given the earlier emphasis on alternative policy instruments, Weinstein (1995) notes:

> *"Certainly, in comparison to the favourable tax treatment, subsidies, protection, and low-interest loans that some sectors received, exemptions from the virtually defunct Anti-Monopoly Law seem like relatively mild forms of government intervention" (page 201).*

55. Peck, Levin, and Goto (1987) explain the role that cartels have played in Japanese policies towards declining industries. Although Japan's government had for some time policies in place to cushion the burden of sectoral decline, it was in 1978 that a comprehensive approach was adopted with the enactment of a law entitled Temporary Measures for Stabilization of Specific Depressed Industries.[20] Peck, Levin, and Goto offer the following account of the role played by cartels in such Measures:

> *"Of course, most firms in declining industries, in Japan as elsewhere, operate at a loss. To enable firms to assume the burden of administering and partially financing structural adjustment, Japanese public policy aims to increase the resources available by directly coordinating industry-wide capacity reduction or by permitting cartelization for this purpose. Even where explicit agreement on prices or production levels is prohibited, a planning process or legal*

[19] For differing views on this matter see Yamamura (1982) and Miwa and Ramseyer (2003).

[20] This law was revised in 1983.

> *capacity-reduction cartels may be expected to restrain the tendencies to engage in the drastic price-cutting that might otherwise accompany extensive excess capacity. Thus, prices may tend to be higher than they would be in the absence of such policies, and this helps firms in the declining industries to undertake certain adjustment activities that are elsewhere undertaken by creditors or government agencies" (pages 81 and 82).*

56. Effectively, then, cartels are created so as to shift the burden of financing adjustment, labour-related and otherwise, off the state budget. Peck, Levin, and Goto argue that there may well be reasons why firms have a stronger incentive finding alternative work for their under-utilised workers than government agencies, so there may be an offsetting efficiency rationale to the consumer-related deadweight losses (page 90).

57. The literature on Japan also contains information about the application of these crisis-related cartel policies. As to their frequency, both Rotwein (1976) and Weinstein (1995) note that only a small fraction of Japanese cartels were recession cartels. Weinstein also notes that most depression cartels only lasted for one year[21], while other types of cartels lasted longer.

58. Several criteria have been proposed for assessing the performance of depression cartels. Duration has already been mentioned, but not much more systematic information is available.[22] Compliance with capacity reduction requests is another. Impact on profit margins and exports are others. Each is discussed in turn.

59. For the Japanese depression cartels authorised between 1958 and 1972, Rotwein (1976) compares the official targeted reduction in monthly output with the actual reduction. In 25 percent of the cases the actual reduction equalled or exceeded two-thirds of the targeted reduction, an outcome Rotwein refers to as "fully effective". In 44 percent of cases the actual reduction was less than 30 percent of the targeted reduction, an outcome labelled "entirely or almost entirely ineffective". The remaining cases lied in between. Bearing in mind that the Japanese Fair Trade Commission (FTC) administered depression cartels, Rotwein interprets these results as follows:

> *"The FTC - which has been fundamentally opposed to cartels but under depression conditions has been legally obliged to consider industry requests for their formation - has adopted a quite different approach [from MITI]. Here the specified production adjustment represents the maximum allowed the cartel; whether or not this maximum is attained is left entirely up to the voluntary arrangements between the firms themselves. Judging from the record, it would appear that in a large number of cases FTC permission to make specific output adjustments turns out to be little more than an empty formality. Many firms apparently 'go along' with the request for such permission in order to avoid open clashes with other industry members, but with little or no intention of following through in practice."*

60. In short, Rotwein concludes that legislation of a cartel offers little guidance as to its ultimate effect. Other factors, notably private sector incentives, intervene.

61. Peck, Levin, and Goto (1987) examine the 14 Japanese sectors that received relief under the 1978 Law (mentioned above). Most of the sectors they consider were "affected adversely" by sharp increases in energy prices in 1973 and 1979 (page 85). Six of these sectors had highly concentrated production, the

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21 Strictly speaking the legal protection for depression cartels tended to last for one year. This does not mean that cartel behaviour by firms necessarily ceased once the legal protection was removed.

22 Having said this Rotwein's list of depression cartels between 1958 and 1972, listed in Table V of that paper, bears out Weinstein's contention.

others did not. Seven of the designated industries were allowed to form recession cartels. The variation across the sectors in relief given, in concentration, and in the presence of a recession cartel is correlated with indicators of sector performance.

62. Peck, Levin, and Goto also focus on the extent to which excess capacity is eliminated as a result of government intervention. They find that the more concentrated sectors tend to set more ambitious capacity elimination targets. For example, in the concentrated aluminium smelting sector the percentage of excess capacity sought for elimination in 1977 actually exceeded 100 percent, an outcome they attribute to Japanese firms expecting further retrenchment in that sector after 1977.

63. In terms of outcomes, these authors notice a substantial difference between official reported data and actual outcomes. On average, concentrated sectors tend to reduce excess capacity by 25 percent, an estimate which just exceeds the 18 percent average reduction in excess capacity in less concentrated sectors (page 97). Nor does actual excess capacity reduction appear to be correlated with the presence of cartels. In fact, capacity reduction is greater (23 percent compared to 19 percent) on average in sectors without cartels.

64. Peck, Levin, and Goto summarise further findings and their policy implications as follows:

"First, none of the industries designated under the 1978 Law completed its restructuring in five years. Many "temporary" stabilization plans have entered their second five-year period, and the 1983 Law nearly doubled the number of designated industries. Particularly troublesome is the creation of business tie-ups, especially the joint sales agencies, that threaten to become permanent arrangements. Democratic governments everywhere have found that temporary measures that confer rents tend to become permanent ones.

"Second, although capacity reduction has proceeded more or less as planned, the plans, based largely on what firms were willing to do, may not have been sufficiently ambitious. In no industry was capacity entirely eliminated in response to lost international competitiveness. Comparative advantage might dictate, for example, a complete abandonment of the urea industry. Only aluminium smelting has approached this outcome; the current stabilization plan calls for a reduction in capacity to 25 per cent of the 1975 level.

"Third, although the evidence is murky, it appears that the structural adjustment policies have in fact been contaminated with protectionist measures. The precise extent of informal trade barriers in the chemical fertilizer industries is unknown, and probably unknowable, but the price discrepancies in urea, for example, are too large to support any conclusion other than that imports have been restricted.

"Despite these imperfections, the Japanese approach to declining industries seems on balance to be uniquely suited to the peculiar institutional environment of large-scale, concentrated Japanese industry. It may be unrealistic to insist that all structural adjustment be completed in five years, that loser industries completely scrap all capacity, and that protectionist measures be avoided entirely. It would certainly be difficult to argue that other countries have had greater success in phasing out their loser industries. Given marked international differences in labor and credit arrangements, Japan's approach to picking losers is probably inappropriate in an institutional environment like that of the United States, but in its context it has achieved reasonably satisfactory results" (page 122-123).

65. Weinstein (1995) examined the effect of administrative guidance and officially-sanctioned cartels on profit margins. First, comparing across 463 different sectors of the Japanese economy in 1963, he

estimated the impact of the share of shipments in a sector covered by cartel arrangements on the ratio of sector value-added divided by total sales, his proxy for average sectoral profit margins. Across a wide range of econometric specifications Weinstein found that cartel presence lowers, not raises, average profit margins of a sector. Weinstein interpreted this finding as follows:

> *"This [econometric finding] seems to suggest that, in general, whatever horizontal restraints were put in place by these cartels appear to have been dominated by factors which caused margins to decline. One likely interpretation is that the favourable tax treatment and outright subsidies that often composed depressed industry policies causes output to rise or resulted in new entry (or perhaps a slowdown in exit.) These factors appear to have dominated any positive impact of horizontal cartel restraints on margins" (pages 208-210).*

66. Weinstein then distinguished between different types of cartels (recession, those created through administrative guidance, and those created to facilitate industry adjustment). In his view the resulting econometric estimates implied that profit margins in recession cartels are probably lower because of greater competition between firms on the basis of quality. He summarised this finding as follows:

> *"Recession cartels, which were probably the most carefully enforced, seem to have resulted in price increases of 1-2% over their average life of 10 months and lead to quality improvements (or changes in the conditions of sale) that resulted in demand increases of 1% over the same time period. Administrative guidance seems to have had a similar or smaller impact, and designated industry cartels seem to have had an impact on prices of less than 5%. Since evidence on how much these cartels were expected to affect pricing and production in general indicates that the government was trying to get firms to reduce production and/or raise prices in the range of 10-20%, these results imply that cartels fell far short of their intended targets." (page 220).*

67. The impact of cartel presence on export performance was examined by Porter, Takeuchi, and Sakakibara (2000) using data that took account of every Japanese government-sanctioned cartel (of all types) from 1953-2004. These authors showed that cartels were almost never found in Japan's most successful export industries. This evidence casts doubt on any claims that crisis cartels provide a shielded home market from which the foundations of subsequent export success can be laid. If anything, intensity of competition in home markets is found in this research to positively correlate with subsequent export performance.

3.5 Republic of Korea in the 1970s and 1980s

68. Before the East Asian Financial Crisis various crisis-motivated cartels were permitted under Korean law. In response to sharp increases in commodity prices Korea enacted the Price Stabilisation and Fair Trade (PSFT) Act in 1975. Yang (2009) argues that the goal of inducing price restraint, or limiting price increases, was the central purpose of this law and its cartel provisions were subordinated to that goal. Yang provides the following summary of the application of the PSFT:

> *"Though the PSFT Act had provisions against cartels, only three cartel cases were challenged by the authorities from 1976 through 1979. Thus, even after the promulgation of the PSFT Act, the government did not show an active attitude toward regulating cartels. Rather, it approved several rationalization or depression cartels. Under the permission or patronage of the government, more than 250 trade associations were newly organized during that period and operated actively. Emphasizing short term price stabilization, the PSFT Act did not reach market structure; rather, it regulated nothing but market behavior. It was primarily a price control law, and cartel regulation was to be utilized as a means of short term price stabilization" (page 622).*

69. The Monopoly Regulation and Fair Trade (MRFT) Act, enacted in 1980, contained specific exemptions from a provision prohibiting cartels for industrial restructuring and research and development. Both of these exemptions could in principle be employed during a sharp national economic downturn or crisis. Perhaps of comparable interest is the extent to which the Act sought to reconcile the prohibition on cartels with so-called administrative guidance provided by the Korean government to firms to, for example, for a cartel. Any cartel that was created as a result of a formal Act or regulation of the Korean state could not be subject to prosecution under the MRFT. However, if firms chose to follow informal administrative guidance to create a cartel then no protection against prosecution was afforded. The distinctive treatment of formal as opposed to informal administrative guidance was upheld by the courts (Yang 2009).

70. One lesson from this particular feature of Korean historical experience for other countries is that the manner in which the private sector responds to administrative guidance on crisis cartels is likely to be influenced by legal protections, if any, afforded to those that follow different forms of administrative guidance.

3.6 The United States during the Great Depression

71. While the Great Depression in the United States is typically said to start in 1929, the policy regime concerning firm collaboration relevant then had been established earlier in the Hoover Administration (Miller, Walton, Kovacic, and Rabkin 1984). The "associationalist" movement was led by Herbert Hoover, first as Secretary of Commerce and then as US President, and viewed industry self-regulation as preferable to formal antitrust enforcement, especially with respect to cartels. The principles of this movement were said to have affected the enforcement practice of government agencies, including the US Federal Trade Commission. The principal tool was the so-called trade practice conference. As Miller, Walton, Kovacic, and Rabkin explain:

> *"Outwardly designed to suppress "unfair" or "unscrupulous" forms of business behaviour, the conferences in practice acted to curb legitimate means of competition. The FTC initiated the conferences by inviting all firms in an industry to meet in the presence of a commissioner and members of the commissioner's staff to discuss disputed practices within the trade. When a majority of conferees opposed some business tactic, the conferees approved resolutions calling for a ban on the suspected practices. If the FTC endorsed the conferees' view, it could classify the resolutions as either "Group I" or "Group II" rules. The Commission treated violations of Group I rules as prima facie violations of the FTC Act and sought cease and desist orders to halt them. For violations of Group II rules, however, the FTC based its decision to prosecute on the circumstances of each claimed infraction" (page 13).*

72. These authors note that by the end of the 1920s the largest enforcement priority of the FTC related to these conferences. Between July 1927 and November 1929 nearly 60 such conferences were held at the FTC. With the onset of the Great Depression the supporters of co-operation between business and between government and business were to apply even more pressure for exemptions from the antitrust laws on the statute books. Specifically, pressures mounted to allow "trade groups to fix prices, allocate production, and consummate mergers and acquisitions"[23] that would otherwise be prohibited.

73. Intervention gathered apace once President Franklin D. Roosevelt took office in 1933. As part of the New Deal that he proposed, the National Industrial Recovery Act (NIRA) was passed. This statute created the National Recovery Administration (NRA) which negotiated many accords or "codes" (as they were then referred to) for individual sectors or industries that specified product market outcomes (such as

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23 Miller, Walton, Kovacic, and Rabkin (1984), page 14.

prices and output levels), labour market outcomes (wages and associated conditions), investment plans, and other corporate practices. President Roosevelt did not hide the fact that these codes could essentially circumvent existing cartel law and, where the codes applied, effectively replace cartel law with regulation.[24] These regulations were, for all intensive purposes, agreed between the government, private industry, and trade unions representing the workforce.

74. With respect to the motives of the supporters of this government intervention, Miller, Walton, Kovacic, and Rabkin argue:

> *"Indeed, the 'central motivating force' of the trade associations was the desire to improve prices by 'collective action.' Labor groups, too, were pleased to secure a quid pro quo in the form of higher wages, and government administrators no doubt enjoyed their newly found power over commerce and trade" (page 18).*

75. Ultimately the US Supreme Court was to rule NIRA and its agricultural counterpart, guided by the activities of the Agricultural Adjustment Administration (AAA), unconstitutional. Still, the NRA and AAA's activities had time to affect market outcomes. Miller, Walton, Kovacic, and Rabkin (1984) summarise the consequences of the NIRA as follows:

> *"These gains to business, labor, and government interests, however, frequently came at the expense of consumers. The government planners, 'hungrily seeking new fields to conquer, seized upon any reason for extending their domain.'...In addition to the deliberate creation of monopolies, moreover, NRA administrators readily acquiesced in numerous code provisions that facilitated 'monopolistic or semi-monopolisitic prices.' Some codes fostered extensive and explicit collusion among bidders for state, local, and federal government contracts, thereby raising profits for favored firms. Others facilitated clandestine price-fixing and restricted interregional product shipments. The glass container industry received an especially strong code as a reward for helping the government enforce the liquor revenue laws…The codes of the timber, copper, and glass container industries all 'had their origin in pre-code price-fixing activities of the groups concerned.*
>
> *"All such practices led to 'consumer gouging.' They also harmed smaller firms because the larger firms dominated the code-making deliberation. Moreover, although the NRA activities successfully raised profits and wages for many of the favored firms and their employees, the agency substantially impeded recovery from the Great Depression" (page 18).*

76. Over time more data has been collected, or made available, concerning the firms that were signatories to codes and those that were not. This has facilitated more formal, statistical evaluations of the effects of the cartel-related provisions of the NIRA. In the following, the findings of these evaluations, especially as they relate to whether crisis cartels can be justified, as compared to alternative policy interventions and other relevant benchmarks are summarised.

77. Taylor (2002, 2007) presents evidence on the extent of output contraction that can be attributed to NIRA-allowed cartels. Care is taken to control for non-cartel-related factors that may have affected sectoral output levels including wage and government spending provisions of the NIRA. Moreover, since other analysts have argued that compliance with the cartel provisions of many codes appeared to break

[24] Miller, Walton, Kovacic, and Rabkin (1984) quote President Roosevelt saying "We are relaxing some of the safeguards of the antitrust laws…[We] are putting in place of old principles of unchecked competition some new government controls…" (page 16).

down in 1934 (the so-called "compliance crisis") and this is taken into account as well.[25] Overall, in his 2002 study of cartel output levels from July 1933 to May 1935 (when the NIRA was struck down by the US Supreme Court), Taylor finds "the NIRA cartel codes themselves brought a ten percent reduction in manufacturing output" (page 8) in the months before the compliance crisis of 1934. The higher wage rates, paid as part of the NIRA package, independently reduced cartel output.

78. Taylor's 2007 study goes further and examines which of seven provisions in cartel codes affected the output of 66 US industries before, during, and after the period when the NIRA was enforced.[26] Having taken account of the compliance crisis and macroeconomic variables likely to affect industry output (such as government spending), the coming into force of a cartel code tended to reduce industry output. Industries with more complex (longer) codes and whose codes specified production quotas, data-filing requirements, and new capacity restrictions saw greater falls in output. These findings confirm that the manner in which crisis cartels are implemented, especially that implementation relates to the enforcement of the cartel agreement, is an important determinant of the policy's overall effects.

79. Two studies also examine whether the introduction of a NIRA code reduced over the medium term the minimum concentration level necessary to sustain a cartel in a sector. Specifically, it may be useful to think in terms of the "critical concentration level" beyond which the firms in a sector can sustain a cartel without government intervention. The question, then, is whether that critical level was reduced in sectors where a NIRA code was in effect. Bearing in mind that the NIRA lost its legal force in 1935, for sectors that have signed a NIRA code, Alexander (1994) examined whether the critical concentration level in a sector in 1937 was less than that in 1933, and found that the former was on average 37% and the latter 60%. This finding, however, has been contested by Krepps (1997) who argues that Alexander's results are a function of the data sample used and that no account was taken of the variation in the critical concentration levels in the sectors where no NIRA code was ever signed. Still, the potential for longer term consequences of short term crisis cartel interventions may be of relevance in other jurisdictions.

80. The unexpected overturning by the US Supreme Court of both the NIRA and the AAA, its agricultural counterpart, provides a natural experiment that Alexander and Libecap (2000) have exploited. Although these laws were overturned, other still-legal provisions would have allowed for the principal forms of government intervention to be reconstituted.[27] Interestingly, the latter provisions were exploited in agriculture but not in manufacturing. Alexander and Libecap advance the hypothesis supported by evidence for 23 US industries that the degree of cost heterogeneity in agricultural sectors was less than that

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25 In a separate analysis, Taylor and Klein (2008) develop and evaluate a game theoretic approach in which firms adhered to NIRA codes as long as they believed that failure to do so would result in a consumer boycott. Initially, such boycotts were triggered by the U.S. government withdrawing a Blue Eagle emblem from firms found in violation of NIRA codes. But this sanction lost its potency. As Taylor and Klein (2008) argue: *"However, as consumers lost enthusiasm for the Blue Eagle, firms realized that the NIRA compliance mechanism…was largely innocuous, and firms began to defect from the cartel. When these defections went unpunished, other firms lowered their evaluations of punishment, leading to further defections. "By the time the NRA Litigation Division began referring violators for prosecution in earnest, the compliance crisis was too far underway" (page 264).* This finding is a further reminder that states need not confine themselves to sanctioning private sector crisis-cartels; the state may also seek to influence compliance with crisis cartel accords.

26 Specifically Taylor (2007) considers monthly data from January 1927 to December 1937, a total of 120 observations on each of 66 industries.

27 For details see sections II and III of their paper.

in manufacturing sectors in the mid-1930s and this made it easier for the former to agree on restoring government intervention.[28]

81. Alexander and Libecap's findings have implications for assessing the impact of the NIRA in the first place. As noted earlier, there was a compliance crisis in 1934. In addition, the NIRA codes were not supported by all firms. Much of their evidence implies that smaller, less efficient firms benefited the most from the crisis cartels instituted by the NIRA. Alexander and Libecap argue on page 381:

> *"It must be explained, however, why the business community could not unite behind some more credible administrator, with billions of dollars potentially available to reinforce cartels that would operate to enhance profits. We argue that business interests were simply too fragmented to attempt such unity, with the fragmentation driven by cost heterogeneity. There was, therefore, no "carrot" analogous to the agriculture subsidy program to entice firms' cooperation with the industrial program.*
>
> *"The industrial codes also had minimum wage, maximum hour, and collective bargaining provisions that were absent in the agricultural programs, and these provisions clearly reduced business support for the NRA. It is commonly observed that the NIRA labor provisions were a quid pro quo granted by business in order to obtain the right to cartelize. What is missing from this story is explication of why the industrial coalition supporting the NIRA was so weak as to have to make concessions to labor supporters, while large farmers were able to marginalize farm workers as well as small farmers. We contend that the concessions to labor were a reflection of a weaker industrial coalition and that its weakness stemmed from disagreements within and across industries regarding the desirability of any particular cartel program—disagreements that were rooted in cost heterogeneity.*
>
> *"Subsequent conflicts over labor issues within the codes, moreover, often had their roots in cost heterogeneity. For instance, in industries, such as cotton textiles, with significant operations in both the northern and southern states, northern firms often tried to use uniform minimum wage provisions to eliminate a labor cost advantage enjoyed by southern firms. The labor-cost advantages enjoyed by less labor-intensive large firms in some industries reinforced small firm demands for price fixing powers within the codes."*

82. More generally, cost heterogeneity was also a factor behind cartel instability and breakdown, according to Alexander and Libecap (2000, page 395). They note a tendency in the data for NIRA codes to be more stable in sectors where average total costs do not vary much with output levels.

83. In sum, the findings for the US crisis cartel regime in the Great Depression imply that its economic effects (principally output reduction) in any given sector depended critically on the contents of the cartel agreement and on the degree of cost heterogeneity in that sector. Note that, while the effects of other government measures are controlled for, no explicit comparisons were made in these empirical analyses of the relative effectiveness of crisis cartels compared to other forms of state intervention.

84. As evidence provided in the next section also confirms, US government experience was rarely confined to allowing or encouraging the establishment of private crisis-cartels. It seems that once the state starts down this path, other government interventions typically follow. Since the cartel members and their customers know this, one cannot rule out interested private parties seeking to influence government policies towards forming such cartels. Under these circumstances it may be unwise to assume that the state

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28 This is not to say there was no heterogeneity within agricultural sectors as the attempt to cartelise the U.S. orange growers, described in the next section of this paper, shows.

optimally intervenes to create crisis-cartels and refrains from further intervention. Experience suggests that proposals to fine-tune policies towards crisis cartels be tempered by such realities.

85. In drawing together the evidence presented in this section, surely the diversity of experience with respect to crisis cartels is of interest. Some competition authorities have been able to resist demands to issue exemptions to cartel laws, others could not. The role of other government agencies in providing administrative guidance, potentially at odds with the goals of national competition law raises important questions concerning competition advocacy. Perhaps most tellingly of all, once governments start intervening in creating and fostering cartels, this typically represents the start of a more sustained process of intervention in markets, suggesting that a narrow focus on the pros and cons of cartel law exemptions may miss important pressures for intervention during economic crises.

4. Historical sector-specific examples of crisis cartels

86. Extracting the relevant evidence on crisis cartels in specific sectors is not as straightforward as one might have expected (before consulting the literature.) In many cases, a sectoral cartel may have been formed in response to an economic crisis or crisis conditions within a sector, however the cartels subsequent trajectory may owe little to its crisis-related origins. Moreover, the reason a cartel may be well known (even infamous) may have little to do with its crisis-era features.[29] Our interest is in the crisis-related aspect of such cartels, not in every development in the business environment and in government regulation that affected such cartels.[30] The following accounts are presented in chronological order.

4.1 State-induced cartelisation in the Massachusetts' railroads, 1872-1896

87. Railroads require substantial amounts of capital to be established and, once in operation, the incremental costs are a fraction of their recurring fixed outlays. Such circumstances can lead to price wars, price under-cutting, and substantial potential losses for investors. Dobbin and Dowd (1997) describe a "pro-cartel policy regime" in US railroads for the years 1872-1896 during which "every American railroad of any size joined a cartel in these years" (page 508). The regime they describe came to an end in 1897 when the US Supreme Court ruled that the Commerce and Sherman Acts applied to railroads.

88. Dobbin and Dowd pay particular attention to developments in the state of Massachusetts. After 1871 "Massachusetts began to promote railroad cartels as a way to stabilise prices and protect public capital" (page 509). In 1875 the Massachusetts Board of Railroad Commissioners were reported to have argued that competitive pricing had resulted in "fierce contests and violent fluctuations of very short duration." By 1878 these Commissioners were arguing that "uncontrolled competition is but one phase in railroad development and must result in some form of regulated combination" (as quoted in Dobbin and Dowd, 1997, page 509).

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29 For example, the potash controversy between Germany and the United States, which came to a head in 1910 and 1911, arguably had more to do with the specific terms of the prevailing cartel arrangements in Germany than any crisis-era origins of the first and second "syndicates" among German potash producers.

30 Therefore, accounts of the impact of sectoral cartels that make no reference to economic crises are omitted. Given the purpose of this paper, perhaps the most important of which is Kinghorn (1996), an evaluation of the German cartels in coal, iron, and steel at the turn of the twentieth century. Comparing the pricing and output of German cartel members with their British and American counterparts at points in time and over time leads Kinghorn to conclude that these three German cartels increased output and lowered prices. "Further, the operation of the cartels stabilized demand, which encouraged cartel members to use more efficient production technologies" (page 339).

89. Another argument advanced before the US Congress was that cartels enabled the continuing, independent existence of railroads, and therefore avoided a consolidation that could lead to monopolisation. Dobbins and Dowd (1997) also argue that cartelisation kept investments in railroads so that supply and demand were better aligned. They reason as follows:

> *"When they [the railroad cartels] were operating smoothly, railroad construction proceeded slowly and followed demand. When cartels broke down, railroads built new lines ahead of demand in the hope of capturing new markets. Cartels led incumbents to assume the industry would be stable and predictable, and prospective entrepreneurs found the cooperative relations among railroads encouraging" (page 510).*

90. Dobbins and Dowd (1997) analysed the entry of every Massachusetts railroad not just during the cartel era but for the longer period 1826 to 1922, which covered different policy regimes. A total of 317 railroads were founded during 1826-1922, many during the era 1845-1855 when British financial capital was readily available for investment. They summarise their principal cartel policy-related findings are follows:

> *"Pro-cartel policies mitigated price competition among incumbents and thus boosted foundings. Antitrust policy enlivened competition and thus discouraged foundings, although industry revenues and track mileage continued to grow. After antitrust, expansion occurred through the growth of incumbents rather than through the establishment of new railroads" (page 524).*[31]

4.2 Germany's potash cartel agreements of 1876 and 1883

91. Perhaps the first crisis-induced privately-inspired cartel for which there is extensive information involves the German potash[32] industry. According to Tosdal's extensive account, at the turn of the twentieth century Germany was the largest supplier of Potash salts. In 1870 German mines produced just under 300,000 metric tons of such salts, by 1909 the annual amount produced exceeded seven million metric tons. Tosdal (1913) reports that the first price-fixing agreement between German producers was negotiated in 1876 after four years of falling prices which had seen a number of suppliers cease production (page 145). Once profits were restored a year later, several firms withdrew from the agreement and it lapsed.

92. Tosdal argues that the large investments necessary to mine and process potash and the fear that "the alternative of free competition and low prices, sure to entail serious losses upon all the mines, and eventually ruin to some, was rejected for combination" (page 146). A new agreement between producers was signed on October 21, 1883, the effects of which Tosdal (1913) contends are as follows:

> *"The potash industry prospered during the decade following the formation of the first agreement. The combination, including as it did all the producers, had been able to keep up prices and, at the same time, increase the demand for potash. The addition of new mines had not been a disturbing factor. The advantages of regulation had become too evident to allow a return of free competition upon the expiration of existing agreements" (page 147-148).*

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31 According to Dobbins and Dowd during the 1872-1896 era railroad foundings were "moderately high". During the antitrust regime of 1897-1922 such foundings were "near zero" (page 515). A subsequent statistical analysis of the determinants of foundings reveals different estimated coefficients for the two policy regimes.

32 Potash refers to a group of naturally occurring potassium salts and the products derived therefrom. Potash has been used to manufacture, amongst others, glass, soap, and fertiliser.

93. Tosdal also reports that the "serious" consequences of the depression of 1901 and 1902 had important implications for the negotiation of the second "syndicate" of German potash producers.

4.3 The 1885-1902 cartel among US Bromine producers

94. Between 1885 and 1902 the US Bromine producers agreed to a "pool" where there was "an independent, unincorporated firm with contracts to buy the entire output of every bromine producer.[33] These contracts guaranteed producers a price, and prohibited them from selling to anyone else. The contracts were explicitly conditioned on the participation of all producers" (Levenstein 1997, page 119). The cartel had an international dimension in that an agreement was reached with the only significant foreign suppliers, German firms, for the latter not to export to the United States in return for a commitment of the US firms to refrain from exporting as well.

95. This cartel was formed after substantial falls in the price of bromine. Before the US Civil War bromine sold for more than six dollars per pound, by 1875 the price had fallen to 30 cents per pound. Prices were to fall a further seven percent between 1875 and 1880 and then a further 30 percent between 1880 and 1884. Although Levenstein does not explicitly link the creation of the pool to the sharp fall in price, such price falls are typically associated with "sectoral crises."

96. Levenstein (1997) does, however, link the pool's creation to the subsequent evolution in bromine prices.

> *"With the establishment of the bromine pool in 1885, this [price] trend was reversed. The price of potassium bromide increased 23% over the year. The average price during the NBC [National Bromine Company] pool (1885-1891) was almost ten percent higher than the average price during the previous five year period. When the NBC contracts terminated in 1891, prices returned to their pre-pool pattern, falling almost thirty percent" (page 121).*

97. Similar qualitative changes were observed in bromine prices with the implementation of the next pool in 1892 and with its dissolution in 1902. Levenstein (1997) shows that prices were more stable during the pools than otherwise. Moreover, she notes "there is no evidence that changes in demand or cost can explain the observed fluctuations in price" (page 122).

4.4 International Steel Cartel, 1926-1933

98. According to Barbezat (1989) the legacy of the disruption of World War I was to improve the climate for co-operation between rival firms in Europe's leading industries in the 1920s. "In response to these shocks, the industries chose co-operation…" (page 435). However:

> *"….after the tremendous dislocation of their industries caused by World War I, the steelmakers of western Europe were unable to operate a complex system of international cartels, made up of unified national groups. The countries were able to agree, though, to a simple industrial policy, agreeing on market shares and protecting their domestic markets [from imported steel]. This enabled them to restructure their own domestic steel industries and to establish domestic organizations, thus taking a step toward the post-1933 export cartels, which were founded and depended on strong national groups" (Babezat 1989, page 436).*

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33 Typically bromine does not occur in natural form but as part of salts. Bromine compounds are used in a wide range of manufacturing industries.

99. On 1 October 1926, the International Steel Cartel (ISC) was formed. Belgium, France, Germany, and Luxembourg were the four founding members of this Continental European cartel. Together they accounted for 65 percent of world steel exports in 1926 and 30 percent of world steel production. The ISC "set quota limits on total production in each of the countries, and the members agreed to respect national boundaries by limiting exports to member countries. The cartel did not explicitly set prices, but sought simply to fix production quotas for steel ingots" (page 436). The cartel agreement included penalties for overproduction and had provisions for terminating the accord in 1929, 1931, or whenever Germany altered the relevant tariff rates.

100. The ISC was beset with instability created by disagreements among the cartel members about the appropriate quota sizes and the punishments for infringing these quotas. At a meeting on 8 and 9 June 1927 German representatives complained bitterly about both. Attempts were made to accommodate German requests in this regard and by 1929 over-production penalties had been cut by 75 percent.

101. Barbezat cites contemporary sources that argue that the single most effective aspect of the cartel were the prohibitions or limitations on exporting between the ISC members. "By limiting imports, the members could better exploit their market power in their domestic markets….This allowed for the establishment of domestic cartels" (Barbezat 1989, page 438). For example, by 1929 these arrangements enabled the French producers to rebuild their own industry and then to form their own domestic cartels. From these ISC arrangements the "principle" that the domestic market was reserved for domestic producers arose.

102. Co-operation among the ISC members collapsed along with the drop in aggregate demand associated with the Great Depression. From this point on, Barbezat argues, differences between the ISC members were too great to sustain meaningful co-operation. Consequently, each member secured its national market for its own nation's producers (page 439).

4.5 US agricultural policy in the Great Depression, with special reference to Sugar and Oranges

103. During the Great Depression the US government, and for that matter state governments, intervened in the agricultural sectors in many different ways.[34] This makes evaluating the specific impact of those interventions that sought to create or promote crisis cartels difficult. While the impact on market outcomes is of particular interest here, it should be recalled that the perceived success (or otherwise) of cartel-like intervention may have spurred other forms of government intervention, some of which remain in place and some of which has been emulated in other countries.[35] The focus here is on two agricultural products where analyses of the impact on market outcomes has been attempted in recent years, sugar and oranges.

104. The regulation introduced via the so-called Sugar Acts of 1934 lasted until 1974. Bridgman, Qi, and Schmitz (2009) provide a qualitative and quantitative assessment of the impact of these regulations on sugar prices and on the allocation of production among US sugar producers. Although US sugar producers

[34] Libecap (1998) provides an excellent overview of agricultural policy intervention in the United States from 1884 to 1970. In section 6.2 of this paper Libecap differentiates between three types of government intervention: provision of public goods, transfers, and economic regulation (the category including cartelisation of markets.) Libecap shows that the New Deal era (1933-1939) was associated with an abrupt increase in economic regulation, much of which stayed on the statute books until the second half of the twentieth century. Libecap does examine the consequences of the New Deal era regulation, however, he does not emphasise the impact of cartels. The only commodity that he analyses the price data for is wheat.

[35] Reich (2007) contends that U.S. New Deal era regulatory initiatives influenced subsequent Israeli policy towards agriculture, in particular the agricultural exemption of Israeli competition law.

had proposed their own cartel arrangements under the NIRA, which included restrictions on the importation of sugar (notably from competitive Cuban rivals), these plans were rejected by the US government and a compromise, state-led and enforced cartel arrangement was instituted after the enactment of the 1934 Jones-Costigan Act.

105. Ultimately limitations on sugar sales and imports were complemented by three state provisions that sought to enforce the industry (cartel) arrangements. First, entry by new farmers was banned, as was expansion by existing farmers. Each farmer was given an allotment of the amount of beets they could produce and of acres they could farm. Second, a subsidy to those beet farmers who abided by their allotments was given. This subsidy was paid for by a tax on white sugar, essentially transferring income from sugar refiners to beet farmers. Third, so that the beet processing industry (including the white sugar refiners) did not claw back the subsidy from the beet farmers in their contracts to buy beet, the government intervened to influence the terms of those contract negotiations.

106. These arrangements were able to limit competition (from home and abroad) and essentially segmented the US and world sugar markets. According to Bridgman, Qi, and Schmitz (2009):

> *"The cartel had two effects on prices. First, U.S. prices were decoupled from world prices. Second, by limiting domestic competition, U.S. sugar prices now grew roughly at the rate of general prices (in the case of the New York raw sugar price) whereas before they had fallen. As part of the cartel agreement, the government promised consumers a "fair" sugar price. In practice, the government interpreted this as meaning that raw sugar prices in New York should roughly grow at the rate of the general level of prices. Hence, the cartel did a reasonable job of hitting this "fair" price target" (page 9).*

107. They also show that the price of refined sugar compared to its inputs rose considerably, implying a significant expansion in profitability within the sector. However, Bridgman, Qi, and Schmitz go on to show that the price intervention, subsidy, and tax regime reduced sugar beet quality as well as extraction and recovery rates. Farmers were paid for the quantity of beets produced not the amount of sugar extracted, with inevitable consequences for the latter. Amongst the evidence cited, the authors note that before 1934, when the cartel began, 310 pounds of sugar were recovered on average from each ton of beets. During the cartel the recovery rate fell to a low point of 240 pounds. Since the cartels demise in 1974 the recovery rate has increased.

108. In sum, state-led enforcement of the US sugar cartel came at a price, in terms of the efficiency of the production of sugar beets and refining. Consumers paid higher prices while the state took measures to frustrate external and internal sources of competition. This cartel is instructive as it serves as a reminder that, first, states need not be content to let their firms organise crisis-era cartels on their own terms and, second, that when states do intervene to influence and enforce crisis-era cartels there are no guarantees that the intervention will be successful (whatever the evaluation criteria) or free of adverse consequences unforeseen at the cartel's inception. A likely candidate for such adverse consequences are state-generated distortions in the allocation of production among cartel members, with inefficient cartel members lobbying for greater allocations of market shares or output.

109. In contrast to the New Deal US sugar cartel, Hoffman and Libecap (1994) show that the orange cartel was beset by many features that undermined its operation during the 1930s. This was the case despite the fact that between 1930 and 1933 the nominal price of oranges fell 75 percent (while overall consumer prices fell 22 percent). Ultimately, the principal growers of oranges in the United States, from the states of California and Florida, were not at one. The much better organised Californian growers[36]

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[36] It is noteworthy that it was legislation enacted in California that created a state agency to regulate intrastate shipments of speciality crops, such as oranges. Government intervention at the state level, therefore, helped

accepted a state-led marketing agreement in 1933 that involved weekly limits on interstate orange shipments. Florida's growers and shippers rejected in the same year an agreement that was almost identical to the one signed by their Californian rivals (page 193). Two other agreements were subsequently proposed to Florida's growers, but it was not until 1939 that an agreement was acceptable to these growers and this agreement did not include limits on interstate shipments of oranges from Florida.

110. Hoffman and Libecap (1994) summarise as follows the conclusions of their analysis of the negotiations within this industry during the 1930s:

> *"The examination of negotiations between the Florida industry and the Agricultural Adjustment Administration from 1933 to 1939 to implement the orange marketing agreements shows how difficult it was to cartelize agriculture, even under relatively favorable circumstances. Heterogeneous interests and conflicts over quota rules prevented the weekly prorationing of interstate orange shipments from Florida and the installation of a national prorationing framework for controlling shipments from Florida, California, and Texas. If a nationwide cartel could not be assembled for oranges, it most surely could not be assembled for wheat or corn. Hence, as agricultural regulation continued to develop, the emphasis was shifted to different ways of raising farm incomes" (page 217).*

111. On top of these contractual problems, falling personal disposable incomes during the Great Depression and a high income elasticity of demand for oranges ensured that the demand slumped during the 1930s, disrupting agreed quotas for individual farmers and states. Moreover, the total acreage under cultivation increased in California and Florida by 21 percent and 79 percent, respectively, between 1933 and 1940, adding new entry to the list of the cartel's woes. As a result, Hoffman and Libecap report that the price of oranges never recovered to their pre-Depression levels.

4.6 US Ferrosilicon cartel, 1989-1991

112. Silicon, in the form of ferrosilicon, is used to for both deoxidisation and for reinforcing alloys in iron and steel production. Even though ferrosilicon can differ according to the degree of silicon content, the real price of ferrosilicon had fallen 40 percent in real terms from 1974 (the post war high) to 1987 (USGS 1998). The rate of real price decline was persistent and at approximately the same rate over time.

113. Several domestic US silicon companies were alleged to have fixed prices during 1989-1991, according to an indictment brought subsequently by US Federal authorities (USGS 1998). During 1988 ferrosilicon prices rose approximately 20 percent in real terms before continuing their downward trend. The form of cartelisation (price fixing) and the trend decline in real ferrosilicon prices is consistent with an explanation that the cartel sought to halt, and possibly reverse, a long term decline in sectoral profitability and, therefore, can be viewed as a form of crisis cartel, albeit one not sanctioned by the state.

114. An interesting feature of this cartel is that its members employed the US antidumping statute against importers of ferrosilicon, potentially disciplining what might referred to as disorderly or unco-operative foreign sources of supply. In 1993-4, having received petitions to investigate the importation of ferrosilicon, the US International Trade Commission had found that such imports from Brazil, China, Kazakhstan, Russia, Ukraine, and Venezuela had "materially injured" the US industry. Following this determination and others, additional duties were placed on ferrosilicon imports from those jurisdictions. To its credit, upon receiving evidence of the price-fixing conspiracy amongst others, the US International

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overcome the collective action problem among Californian orange growers at the national level. This observation may have relevance for other jurisdictions where different levels of government share competency for a particular matter, such as the economic regulation of a sector or form of commerce.

Trade Commission reversed its determination in 1999 and ultimately the antidumping duties were scrapped. Still, five domestic ferrosilicon producers filed an appeal against this reversal (USGS 1999). The use of the anti-dumping statutes to enforce the international dimensions of this cartel contrasts with the outright negotiation of market allocation in some of the cartels from earlier eras described in this section.

115. The purpose of this section has been to summarise the main features of a selected number of crisis-era cartels. Sharp falls in prices, perhaps triggered by falls in aggregate demand, are a frequent trigger for such cartelisation, although disruption from other sources (such as a prior war) played a role in some cases. The desire to avoid "ruinous" competition in sectors with high investment outlays and low incremental costs, so as to generate stable rates of return that encourages the progressive investment in a sector, was also a motivating factor.

116. Government intervention was rarely confined to encouraging the formation of crisis-era cartels and exempting such arrangements from relevant competition laws. Once the state got involved, it often sought (or was persuaded to seek) to influence the terms of the cartel agreement and its stability. Enforcement of the resulting cartels was often a public-private affair. Moreover, whenever competition from foreign firms was an important source of rivalry, crisis cartels included provisions to shut out imports, adding an international dimension to the consequences of this form of state intervention.

117. As to the effectiveness of these cartels, it is striking how often considerations of cartel stability are mentioned, confirming long-standing insights as to the importance of this matter. While evidence has been presented that suggested that crisis cartels raised or stabilised prices, rarely was the harm to buyers ever estimated. Moreover, no attempt was made to estimate the magnitude of the alleged benefits from such cartels, or to show that cartelisation was the more efficient means of obtaining those benefits compared to the other policies available to governments.

118. Overall, then, what can one make of these findings? It cannot be denied that crisis cartels existed and that some had effects on prices. What has not been demonstrated is that the harm done to buyers by crisis cartels has been more than offset by the benefits from other sources. Perhaps this evidence exists for cartels created in normal economic conditions, no such evidence was found for crisis cartels. Moreover, on no occasion has it been demonstrated that crisis cartels and associated regulations attained stated government objectives (such as stabilising investment outlays) at less cost to society than other measures available to governments at times of economic crisis.[37]

5. Evidence from the recent global economic downturn

119. Given the incentives faced by privately-orchestrated cartels to keep their operations secret, no complete accounting of the cartels induced by the recent global economic downturn (that lasted from 2007 until at least 2009) is available. In fact, an extensive review of media outlets for articles about "recession cartels," "depression cartels," and "crisis cartels" produced only a very small yield.[38]

120. One attempt to use the recent global economic crisis to justify the creation of potential cartel-like arrangements is worth mentioning. The so-called Baltic Max Feeder scheme was motivated by the collapse of world trade observed in 2008 and the associated decline in revenues for the shipping industry. The scheme is said to refer to smaller vessels (up to 1,400 teu) that ship containers within Europe. These

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37 During the extensive research for this background paper no study of a crisis cartel was found that even purports to make such an empirical demonstration. This does not imply that such studies do not exist.

38 In contrast over the past two years nearly 5,000 newspaper and other media articles have mentioned "cartels." Unfortunately, the word cartel has many meanings and is not synonymous with recession cartel, depression cartel, or crisis cartel.

vessels are known as "feeders" precisely because they transport containers to and from ports where large international ocean-faring vessels dock and smaller ports where such larger vessels do not dock. It had been proposed that capacity be reduced and that ship-owners' revenues be enhanced by higher charter fees. The latter proposal was withdrawn after opposition from charterers and a proposal to compensate ship-owners for the tonnage of feeders' laid up (that is, taken off the market.)[39]

121. On 15 January 2010 the European Commission announced that it would investigate these proposed arrangements under Article 101 of the Treaty on the Functioning of the European Union. The following statements from the associated official press release are informative:

> *"The 'Baltic Max Feeder' scheme has been elaborated and promoted by Anchor Steuerberatungsgesellschaft GmbH, a [private] German tax advisor, as a response to the current overcapacity of feeder container vessels, which has brought charter rates down."*[40]

> *"The Commission is in particular concerned that the scheme, whereby European ship owners collectively agree to cover the costs of removing feeder vessels from service, may be aimed at reducing capacity and therefore at pushing up charter rates for such vessels."*[41]

122. On 26 March 2010 the European Commission announced that it had closed its investigation into this matter. The associated official press release stated:

> *"The investigation aimed to establish whether the scheme's purpose was to reduce capacity and, therefore, push up charter rates for such vessels. If confirmed this would likely have been tantamount to a breach of Art 101 of the Treaty, which bans agreements restrictive of competition.*

> *"In response to the opening of proceedings by the Commission, Anchor Steuerberatungsgesellschaft GmbH, the company at the origin of the scheme, informed the Commission in February that the planned scheme had been abandoned. Under these circumstances, the Commission considered that there were no reasons to further investigate and decided to close the case."*[42]

123. Another example of resort to cartelisation during the recent global economic crisis is state-led and relates to the rubber market. According to press statements by government ministers and a report from the United Nations Development Programme, during the year 2009 the governments of Indonesia,

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39 For details see Janet Porter, "Brussels stands firm over shipowner crisis cartel plans," *Lloyds List*, 29 October 2009 and Greenberg, Traurig, and Maher, "Sink or Swim? The Baltic Max Feeder Investigation Signals First Full Competition Probe Under New Maritime Regulatory Framework," *Antitrust & Trade Regulation*, January 2010.

40 A single agent, then, sought to overcome the collective action problem traditionally associated with the organisation of cartels.

41 Press Release "Antitrust: Commission opens formal investigation into the "Baltic Max Feeder" scheme for European feeder vessel owners," 15 January 2010. Available at: http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/21&format=HTML&aged=0&language=EN&guiLanguage=en.

42 Press Release "Antitrust: Commission closes investigation into "Baltic Max Feeder" scheme," 26 March 2010. Available at: http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/374&format=HTML&aged=0&language=EN&guiLanguage=en.

Malaysia, and Thailand would reduce rubber exports by 915,000 tons. The following explanation appeared on the independent crisis-era monitoring website, the Global Trade Alert[43],

> *"It would appear that the Indonesian, Malaysian, and Thai rubber producers, acting through the International Tripartite Rubber Council (ITRC), have sought to restrict exports of rubber so as to increase world prices. These three countries are the largest exporters of rubber in the world, accounting for 70 percent of total supplies according to one recent estimate.*
>
> *"Numerous news reports include quotes from leading business executives and business associations that are consistent with the above summary. Moreover, a recent report from the United Nations Development Programme makes reference to this alleged scheme. As of July 2009, however, it is not clear that any such concerted action has proved to be successful. One recent commentary stated: "Weakness was visible in Asian rubber futures despite the fact that International Tripartite Rubber Council members Thailand, Indonesia and Malaysia announced a decision to remove 915,000 tons from the market in 2009 to bolster prices". A reduction of this magnitude has been estimated as being equivalent to a sixth of the total world sales.*
>
> *"According to the following quotation, found on an official Thai website, the alleged cooperation began in the fourth quarter of 2008". Deputy Minister of Agriculture and Cooperatives Teerachai Saenkaew said that the three countries met at a special meeting between the International Tripartite Rubber Council and International Rubber Consortium on October 29. They discussed ways to improve the rubber situation, which was facing falling prices following the global financial crisis."*[44]

124. Analysis of data on international trade flows in rubber suggests that this measure will likely affect the export of rubber between these three nations and 115 trading partners.

125. Rather than resort to crisis cartels, during the recent global economic downturn many governments offered bailouts and subsidies to domestic manufacturers, farmers, and service providers. While the bailouts to the financial sector received a lot of attention, many other firms were being offered financial assistance by their governments.[45] According to the Global Trade Alert, which bases as many of its reports on official sources as possible, at least 164 subsidy and bailout schemes have been implemented since November 2008 by governments for firms not in the financial sector.[46] Investigation (principally by

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43 In the interests of transparency, it should be stated that the author coordinates this worldwide initiative to monitor state policies during and after the recent global economic downturn. Senior elected officials, leading business persons and analysts, and newspapers make frequent reference to the Global Trade Alert. Scholars now use this database too, which seeks to become the best source of information on contemporary discrimination in public policymaking.

44 Further information including links to references can be found at http://www.globaltradealert.org/measure/indonesia-malaysia-and-thailand-limiting-rubber-exports-915000-tons-during-2009.

45 More generally, the previous global economic downturn saw a resurgence of interest in "industrial policies." Aggarwal and Evenett (2010) document these various forms of government intervention employed, including subsidies, for a selected number of Asia-Pacific nations. As the Great Depression of the 1930s, and alluded to in the Libecap (1989) analysis mentioned above, the recent global economic downturn has spawned a wide range of government interventions, many of which could in principle be alternatives to forming crisis cartels. Therefore, the remarks that follow in the main text comparing subsidies to crisis cartels carry over with equal force to other forms of government interventions seen since the recent global economic downturn began.

46 This total does not include export financing schemes and consumption subsidies, both of which can upset the so-called level playing field between firms.

government sources[47]) has revealed that these subsidies and bailout schemes have distorted the conditions of competition, principally by shifting the burden of plant shut downs, unemployment, etc., on to trading partners in the relevant markets.[48]

126. What is the relevance for this paper of the widespread resort to bailouts and subsidies outside the financial sector during the previous global economic downturn? These bailouts and subsidies serve to remind policymakers that there are alternative options to creating crisis cartels.[49] Therefore, it is important that proponents of these cartels explain why their proposals attain stated national goals at less cost than alternative state measures, such as subsidisation.

127. Indeed, the fact that there is so little public evidence of cartel law exemptions being given during the recent global economic downturn suggests that either a lot of government-approved tacit cartelisation occurred "below the radar screen" in recent years or that governments rejected cartelisation in favour of bailouts. Perhaps the ready availability of credit, at least until the era of austerity began in mid-2010, shifted the cost calculus in favour of subsidisation.

128. Alternatively, when financial markets froze up for commercial firms in 2008 and 2009, it has been argued that "Cash is King" and that government bailouts delivered what firms desperately needed at the time, which in this case was short term financing ("cash") (Evenett 2010).[50] Without such financing, suppliers and employees would be let go, further exacerbating economic conditions. In contrast, cartelisation offers higher prices and stable sales, which may increase cash flows per month but doesn't solve any substantial shortfall in financing needs.

129. The latter paragraphs do not seek to put subsidisation and bailouts on a pedestal above crisis cartels. It could well be that when a comprehensive assessment of the effects of the former is conducted that they are worse than the latter or, for that matter, worse than some other alternative policy. What matters is that the principle be established that crisis-era state interventions be compared to one another,

47 The European Commission conducts investigations of some such schemes implemented by the European Union's member states. Those investigations result in letters being sent to the implementing jurisdiction, letters which are publicly available. Taken together, these letters point to a substantial amount of subsidisation by European governments of their firms during the previous crisis. The latter statement does not imply that the degree of European subsidisation is necessarily greater than in other industrialised countries where subsidies have been employed.

48 From a competition law perspective distortions from subsidies and bailouts to the competitive process involving only domestic firms are relevant too. The Global Trade Alert only reports as problematic those subsidies and bailouts likely to harm foreign commercial interests and domestic firms; therefore, the 164 total reported in the text will understate the total number of competition-distorting subsidies implemented since November 2008. Reports on each of those subsidies and bailouts can be accessed at www.globaltradealert.org.

49 There could, of course, be a linkage between bailouts and crisis cartels. A government could make acceptance of financial support conditional on the parties concerned forming, or joining an existing, cartel. It would be interesting to check whether any such conditions have been applied.

50 This argument seems better suited to explaining the paucity of crisis cartels in jurisdictions where the government had access to financial markets willing to fund fiscal deficits, swelled in part by the cost of such subsidies and bailouts. Should evidence subsequently come to light that crisis cartels were employed more in jurisdictions whose governments could not finance such deficits, then the linkage between access to finance and cartelisation might be established. Of course, even in jurisdictions with little or no means to finance larger fiscal deficits, governments have been found to resort to measures other than cartelisation to "help" domestic firms. Those measures include competition-limiting regulation and protectionism.

rather than settling for evidence that one intervention has, or could have, an impact on the markets in question.

6. Considerations relevant for policymaking

130. The historical and contemporary experience described in the three previous sections identifies a number of factors that ought to inform the approach that policymakers take towards cartels during sectoral, national, and international crises. This is not to suggest that relevance of each factor is the same in every sector or country, or even countries at similar levels of development. After all, the assessment of Japanese experience towards declining sectors reported earlier was doubtful that their findings were relevant to other countries going through a fast rate of industrialisation, that many developing countries have experienced.

131. A major lesson from the recent sharp global economic downturn is that policy towards crisis cartels ought to take into account the availability and potential desirability of alternative state measures. For example, the widespread resort to subsidisation in the recent downturn is likely to have had the opposite effect on prices in the affected sectors than resort to crisis cartels, namely, the former is likely to result in lower prices and potential benefits for customers. Moreover, the speed with which subsidies can be distributed and thereby can improve firm balance sheets in the short run may well have made such bailouts a more preferable instrument to creating crisis cartels.

132. Whether governments have the financial resources to sustain subsidisation is another relevant consideration, especially for developing countries. For budget-constrained jurisdictions subsidies may not be a practical alternative to crisis cartels. Other alternatives to crisis cartels need not incur state outlays, however. Rather than allowing supposedly rival firms to get in the habit of limiting competition between them -- a consequence of allowing the formation of a crisis cartel -- a government may decide to set temporarily the prices, or the minimum prices, that rivals can charge. While much may depend on the goods and services in question and the pre-crisis market structure, the central point here is that there could be interventions -- even interventions within the powers of a national competition authority -- that do less harm to the competitive process and to customer interests than crisis cartels.[51]

133. In considering alternative policies to crisis cartels it is worth bearing in mind that economic crises typically reveal considerable mismatches between installed capacity (supply) and the demand in certain sectors of the economy. The reallocation of resources away from sectors with excess capacity is an important part of the adjustment process after a crisis and policies that facilitate that adjustment might well be preferable to measures like crisis cartels that can discourage the scrapping of unneeded capacity. Mergers and acquisitions within a sector are a well established means through which restructuring takes place in market economies. While such mergers can attenuate competition between surviving firms the harm by them to purchasers may be considerably less than a crisis cartel that eliminates all competition between rivals. Other policies, such as active labour market policies and transfers, seek to limit the costs of restructuring.

134. The foregoing paragraphs suggest there are plausible alternative policy responses to crisis cartels, some involving competition law, some not. Competition authorities in both developing and industrialised countries have a clear stake in promoting crisis-era policy responses that pose the least, longer term threat to the competitive process. Consequently competition advocacy, within and outside government, could play a constructive role as the relative merits of crisis cartels are compared to other policy alternatives.

51 This is not merely a hypothetical example. The contribution of Jordan to this Global Forum makes specific reference to establishing temporarily minimum prices for certain goods and services during an economic crisis.

135. More generally, crisis cartels alter both production and consumption decisions. Worse, cartelisation may only indirectly affect outcomes that governments care about, such as employment. In these cases, a more direct policy instrument would target the incentive to employ persons, such as a temporary crisis-related wage subsidy. For all of these reasons, the evaluation of crisis cartels is necessarily a relative one; decision-making processes should then be organised around comparisons across a number of plausible policy alternatives.

136. Another important lesson from the historical evidence presented earlier suggests that state intervention begets further intervention and that one-off interventions rarely satisfy whatever motives governments have or pressures they face from others. Establishing or permitting a crisis cartel can, therefore, become the start of sustained and far-reaching government intervention into a sector, as has been the case in the agricultural sectors of certain industrialised economies that started in the Great Depression (and in some cases, earlier). These practical considerations, that speak to the role that interest groups play over policymaking, ought to be taken into account when deciding policy towards the formation, review, and dissolution of cartels in crises.

137. What follows is an account of some of the options relating to the design of a process to authorise crisis-era cartels.

138. With respect to the *approval* of a crisis cartel, an important starting point is to establish criteria by which to evaluate any proposal to authorise a crisis-related cartel. Evaluations will be complicated by adopting too many criteria as trade-offs across attaining different criteria are difficult to undertake in a straightforward manner. Indeed, an apparently technocratic evaluation process can be fatally undermined, if arbitrary, undisclosed, and unaccounted for choices between criteria are permitted.

139. Although one choice facing governments is between *ex-ante* and *ex-post* reviews, surely any concerns about the harmful side-effects of the reviewed behaviour mitigates in favour of an *ex-ante* review. The review should be *evidence-based*, reflect knowledge of the sector in question, quantify all of the costs and benefits of the proposed behaviour, and provide a *public rationale* for any decision made.

140. *Approval subject to conditions* should be allowed for, in particular when the reviewing body can identify a better way to attain stated government objectives at lower cost. Testing whether a proposed arrangement between firms is the best means to attain state objectives ought to be an important part of the approval process. This requires that sufficient attention is given to *viable alternative state interventions*, including interventions outside the realm of competition law.

141. The question arises as to which body should conduct such reviews and what happens if a government body other than the competition authority is chosen to undertake such reviews. In the latter event the option of *competition advocacy* arises, although what it takes to make such advocacy effective may vary across jurisdictions. Even if the competition authority undertakes the review, the implementing legislation and regulations may require the authority to take into account factors that it normally leaves aside. Moreover, there may be obligations to consult with parties whose interests are not necessarily aligned with promoting the competitive process.

142. Since market circumstances, and not least government priorities, change over time, it is worth considering establishing *review* procedures for any approved crisis-cartel. The review should establish whether the cartel arrangement remains necessary (given the stated government goals), whether its scope is necessary to attain the goals, whether alternative government measures would more efficiently attain the goals, and the length of time for which any extension (with or without conditions) should be granted.

143. Ensuring that any review processes be *evidence-based* would shift the evaluation on to a more scientific basis, and so discount arguments made by analogy to other cartel episodes. Previous sections of this paper have highlighted the weaknesses in evidential base on crisis cartels and the need to compare the likely effects of proposed cartel arrangements with other plausible crisis-era interventions.

7. Concluding remarks

144. During previous economic crises governments have created or encouraged the formation of cartels. Some governments went further and enforced the associated agreements or provided for the courts to do so. Coming after nearly two decades of stricter cartel laws and enforcement practice, were governments to create cartels in reaction to the recent global economic crisis this would represent a sharp change in the direction of competition law and policy. Be that as it may, the question arises as to whether such crisis cartels can be justified. Drawing upon what is known about previous episodes of crisis cartels, the purpose of this paper was to describe and assess the relevant policy options. Plenty of relevant sectoral, national, and international evidence was referred to.

145. Much attention was given to the motives for creating crisis cartels, not least because these motives often suggest alternative policy measures that might attain the same government objective. Also, the motives of governments appear to have differed across country and sector. Some of the motives identified here are very hard to reconcile with the promotion of consumer welfare, raising the possibility that during economic crises the preferences of competition authorities may not be aligned with those of elected officials. A role for competition advocacy immediately arises but, if that is seen as likely to be counterproductive, then a competition authority may feel compelled to temporarily modify their enforcement practices in line with the crisis-era objectives of policymakers.

146. While a lot of evidence was reviewed for this paper, it is still the case that the empirical assessments of crisis cartels are incomplete. Little is known, for example, of the magnitude of the harm done to buyers from crisis cartels. Still, crisis cartels tended to reduce output and raise prices, although this was contested in some cases. In light of these findings it would be difficult to argue that crisis cartels had no effect.

147. The evidential base is sufficiently rich to demonstrate that the actual impact of crisis cartels is contingent on factors internal and external to the cartel. That in previous economic crises governments have intervened not just to encourage private cartels, but to enforce associated agreements speaks to the importance of entry and the well-understood and long-standing private incentives to cheat on cartel accords.

148. No evidence comparing the effectiveness of crisis cartels and other forms of state intervention could be found. This latter observation is of considerable contemporary relevance as governments appear to have resorted to selective state aids and bailouts -- rather than crisis cartels. The justification of crisis cartels should not turn, therefore, on whether these arrangements have effects but on whether they represent the best means of attaining stated government goals during an economic crisis.

149. On this latter criterion, the proponents have yet to offer a satisfactory demonstration of the merits of crisis cartels. Consequently, there is no basis to revise the general presumption in existing international norms that so-called hard core cartels should be discouraged. Nor does the recent global economic downturn provide a reason to reverse the two decade-long trend towards stronger enforcement against hard core cartels.

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