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## Competition and Inflation - Background Note

By the Secretariat

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More documentation related to this discussion can be found at:  
<https://www.oecd.org/competition/competition-and-inflation.htm>

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# Competition and Inflation\*

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Given the rise in inflation across the OECD, it is timely to consider the interaction between competition and inflation. This background note considers this in several respects.

Firstly, it considers how competition contributes to lower inflation, despite its unsuitability as a short-term anti-inflationary tool. It explains why competition is important for optimal inflation and summarises some of the empirical evidence of this relationship.

It then considers how inflation affects competition, for example by creating conditions for firms to coordinate or by increasing the search costs of consumers.

Finally, it considers what periods of high inflation mean for competition authorities, noting that while it should largely business as usual, authorities should be aware of potential threats to competition, including from government intervention and coordination by firms.

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\* This background note was prepared by Richard May of the OECD Competition Division, with helpful comments and inputs from: Renato Ferrandi, Yosuke Jin, Antonio Capobianco and Ori Schwartz of the OECD Competition Division.

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# 1. Introduction

1. Inflation and its causes have long been the subject of study in the field of macroeconomics. Those in the field of competition policy or law do not typically expect to be asked their views on inflation. Nonetheless, while the field of competition policy or law may not be the first place most would look for insights into inflation, there are clear and long-standing associations between the two topics.
2. For example, over 50 years ago the OECD Council adopted a recommendation calling for increased competition enforcement as part of the fight against inflation.<sup>1</sup> With persistent high inflation seemingly a thing of the past, just over five years ago the recommendation was considered obsolete and abrogated.
3. However, after years of appearing low and stable across most of the OECD, inflation is now on the rise in many countries. The year-on-year percentage change in prices across the OECD for the second quarter of 2022 was nearly 10%.<sup>2</sup> This compares to an average of under 2% annual change in prices between 2016 and 2020 across the OECD. There are several undeniable contributing factors to this, including the supply and demand effects of the COVID-19 pandemic and the Russian invasion of Ukraine.
4. Competition authorities are likely to come under pressure to act from politicians and the media during times of rising prices (OECD, 2012<sub>[1]</sub>). Therefore, it is timely to consider the relationship between competition and inflation.
5. Competition affects outcomes in specific product and geographic markets, with ineffective competition enabling suppliers to raise prices above competitive levels. A reduction in competition across many markets in an economy could lead to higher prices generally. Inflation, on the other hand, does not measure whether prices are high.<sup>3</sup> Instead, it typically measures the annual percentage change in the average price level of an economy. High but stable prices mean low inflation and, conversely, competitive prices with regular supply shocks could lead to high inflation.
6. Despite this, there has been debate on whether competition problems have contributed to the recent spike in inflation. Some argue that it has, pointing to increasing levels of concentration and profit margins. For others however, competition can only play a minor role in determining inflation and they argue that, even if there is a general competition problem, it cannot be considered a significant cause of the current crisis. In many ways this discussion goes beyond the recent rise in inflation and poses the question of whether there are systematic competition issues in many countries.
7. This paper will consider these issues without delving into too much detail on the overall state of competition, which deserves a discussion of its own. It will distinguish between two related, yet ultimately separate, questions. First, what role, if any, does the level of competition have in determining inflation? Second, what does an inflationary environment mean for competition policy and competition authorities?<sup>4</sup> It will also consider an additional question of whether an inflationary environment gives rise to risks to the competitive process. If so, this knowledge could help authorities in preventing reductions in competition that could further exacerbate rising prices.
8. While the OECD Competition Committee has not directly considered these issues before, similar issues were considered in the 2012 Global Forum of Competition discussion on competition and commodity price volatility, albeit in the context of commodity pricing rather than overall inflation (OECD,

2012<sup>[1]</sup>). Some relevant points were also covered in the 2013 Committee discussion on Competition issues in the Food Chain Industry (OECD, 2013<sup>[2]</sup>).

9. The paper is structured as follows. The first section discusses the extent to which competition affects the level of inflation. While this paper is not a direct response to current inflation, the section starts with some context on recent developments, before considering more generally the relationship between the two.

10. The next section considers the reverse relationship, assessing how inflation affects the competitive process. Its purpose is to focus on how inflation may create risks of competitive distortions, or lead to additional factors for authorities to consider when analysing competition.

11. Finally, while there is significant interest in the debate around how competition issues have contributed to the current levels of inflation, high inflation poses challenges that competition authorities must consider. The final section of the paper considers if, and if so how, competition authorities can respond to the high levels of inflation, including advocacy initiatives that they may wish to instigate, as well as changes in their enforcement priorities.

## **2.** Competition's effect on inflation

12. This section considers the extent to which competition affects the general inflation level. The purpose is to consider the question generally, over both the short-term and long-term. Given the current environment, it is natural to consider how much of the recent increase in inflation could be attributed to competition issues. However, much of the debate on whether competition issues contributed to the rise in inflation surrounds discussion over whether countries suffer from a general competition problem. Reaching a definitive view on such a topic is not the purpose of this paper and significant discussion would be required to do it justice. As such, the subject is discussed only briefly.

13. The section starts by introducing the concept of inflation and providing an overview of the current situation. It then considers the causes of recent inflationary trends, before considering the role of competition in determining inflation more generally over a longer time horizon.

### **2.1. Introduction to inflation**

14. Inflation measures changes in an economy's general price level and reflects the phenomenon that nominal currency tends to lose its value over time. It is generally measured in terms of the year-on-year changes in the average level of prices across an economy.

15. Inflation can be considered transitory if it quickly dissipates, for example if prices briefly rise steeply but then stabilise, whereas persistent inflation is more enduring, with sustained increases in prices. Inflation that is persistent may become entrenched in the expectations of those within an economy, and thus become somewhat of a self-fulfilling prophecy. As an illustration, a one-off increase in price due a lessening of competition from a merger would create inflation that year then fade away. The price increase is a one-off impact on inflation.<sup>5</sup>

16. Inflation is a macro, rather than micro, economic concept. It concerns the overall level of prices and value of money, rather than the prices of specific markets. Monetary and, to a lesser extent, fiscal policy are usually considered the main policy levers to control inflation, with many jurisdictions tasking central banks to meet inflation targets.<sup>6</sup>

17. The causes of inflation have long been studied and, historically, been a source of contention between rival schools of thought amongst economists. The current economic orthodoxy is to consider inflation as a function of output and future expectations, in a relationship known as the Phillips' Curve, whilst acknowledging differences between the causes in the short and long term. The level of competition rarely features in discussions regarding the inflation levels, at least not directly.<sup>7</sup> In the longer term especially, the economic consensus is that a key determinant of inflation is the money supply, and there is empirical evidence highlighting the effects of the money supply on inflation (Haug and Dewald, 2004<sub>[3]</sub>).

18. As inflation concerns changes in general pricing levels, it must be estimated based on prices across an economy.<sup>8</sup> The measurement of inflation is not easy, with both conceptual and practical issues to overcome (Siklos et al., 2018<sub>[4]</sub>).<sup>9</sup> Such issues are beyond the remit of this paper.

19. Inflation, whilst often seen as desirable when stable and low, can produce negative effects for economies if too high for extended periods of time, for example impacting economic growth and reducing

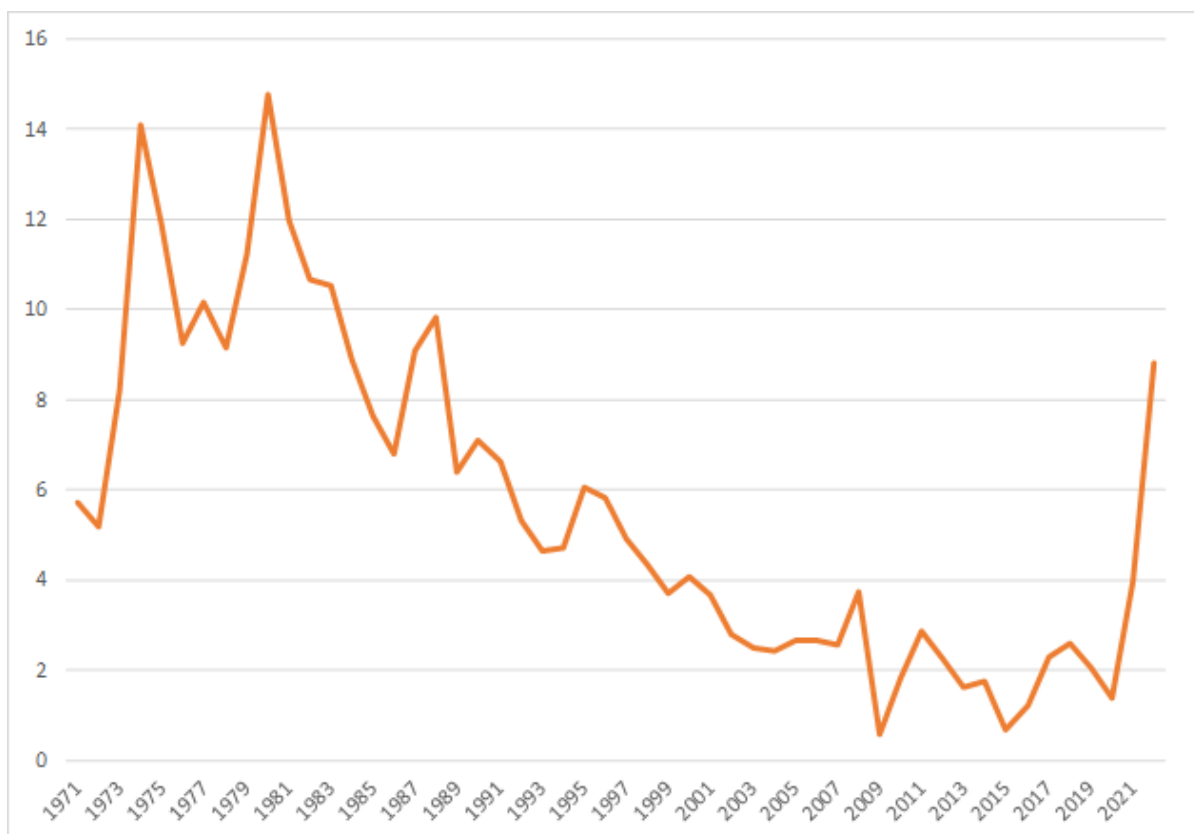
corporate investment (Cizkowicz and Rzońca, 2013<sup>[5]</sup>). Further, inflation can have harmful distributional and wealth effects (Siklos et al., 2018<sup>[4]</sup>).

20. It is important to distinguish between inflation and a cost-of-living crisis. While inflation may lead to a cost-of-living crisis, the latter could occur independent of high inflation, for example if a few key markets suffer supply shocks and see price increases (OECD, 2012<sup>[1]</sup>), (OECD, 2013<sup>[2]</sup>). Similarly, there could be periods of high inflation that do not result in crises in the cost of living, for example if wage growth matched or exceeded inflation.<sup>10</sup>

### 2.1.1. Recent inflationary environment

21. While this paper is not the place to consider in detail the dynamics of the current increase in inflation, it is hard to ignore. As shown in Figure 1, average inflation levels in the OECD have increased significantly in the past year or so, to levels not experienced across the OECD for over 30 years.

Figure 1. Average inflation rate across the OECD



Note: The membership of the OECD has evolved over time, so changes in the average OECD inflation rate will also reflect these compositional changes as well as fluctuations within countries over time.

Source: OECD (2022), "Prices: Consumer prices", Main Economic Indicators (database), <https://doi.org/10.1787/0f2e8000-en> (accessed on 30 September 2022).

22. Despite these clear patterns across the OECD, not every country's experience in the same. For example, for the second quarter of 2022, the year-on-year changes in prices across countries in the OECD ranged from 3% to 74.1%, with a median of 7.9%. Despite this, several global and regional factors appear to be behind some of the recent increases.

23. The immediate causes of at least some of the current inflationary trends seem obvious. The COVID-19 pandemic has caused disruption across the world, having substantial impact on global supply chains. The economic effects led many governments to implement measures to support aggregate demand, which may have further increased inflationary pressure. Towards the end of 2021, many commentators predicted that, what was then quite high inflation, would peak shortly after but remain above target levels for some time (OECD, 2021<sup>[6]</sup>). However, the Russian invasion of Ukraine in February 2022, and its effects on energy and food markets, particularly in Europe, has clearly been a factor in increasing prices (OECD, 2022<sup>[7]</sup>), (OECD, 2022<sup>[8]</sup>). There may well be other causes, such as environmental factors like drought or adverse weather conditions that have aggravated the situation, as well as high levels of employment growth.

24. According to the latest OECD Economic Outlook, the invasion of Ukraine has further aggravated inflationary pressures at a time when they were already high, with 2023 projected to see a modest decrease in headline levels, before further reducing in 2024, although such forecasts are highly uncertain (OECD, 2022<sup>[9]</sup>). The paper notes the need for interest rate rises across most major economies to bring inflation under control (OECD, 2022<sup>[9]</sup>).

25. Several commentators though have argued that the recent rise in inflation is at least partly explained by a lack of competition, or the pricing power of firms.<sup>11</sup> A lot of this discussion has taken place via the media. Nonetheless, the broad consensus appears to be that competition has not been a driving factor in the current inflationary environment. Many, but not all, economists appear sceptical that competition is the root cause of the current high inflation.<sup>12</sup> For example, a survey of a panel of economists in the United States by Chicago Booth University in January 2022 found that most largely disagreed with the proposition that market power is causing inflation or that competition policy could fix it.<sup>13</sup>

26. In the context of a paper focussing on competition and inflation, an interesting question is how much, if any, of the recent increase can be attributed to competition or has been exacerbated by a lack of competition.

## 2.2. How does competition affect inflation?

27. As noted earlier, competition affects prices in specific markets. Inflation considers the overall price level across an economy. Ineffective competition leads to higher prices, but it does not follow that rising prices are necessarily the result of ineffective competition. To sustain inflation, there would need to be a constant degradation in the level of competition such that prices continue to rise. Absent supply and demand shocks, competitive markets would have competitive, stable prices, whereas a constant monopoly would have high, but also stable, prices.

28. As an extreme example, consider an economy with just one market which produces a single good. In this world, inflation could be measured simply as the change in prices of this good. Competition would affect the price if its intensity changed or if it affected how changes to supply or demand were passed through to prices. If the market became a monopoly which resulted in a higher price for the good, then this would be seen as inflation in the next period. The period after, prices would not change as there is no change in competition, and thus inflation would return to zero. From now on, inflation will depend on how the monopolist passes on changes in supply and demand to customers.

29. This extreme example distinguishes two separate mechanisms through which competition could affect inflation. First, reductions in competition across the economy over time could lead to many price rises, together becoming inflation. Second, when competition affects the functioning of markets this contributes to higher or lower inflation. Put another way, beyond the direct impact of competition on price, in parallel universes with everything held constant except the level of competition, would inflation be the same?

30. The importance of distinguishing between these two points is to highlight that, even if the current inflationary period is not the result of competition issues, it does not mean that ensuring a competitive economy is not important for controlling inflation over the longer term. Competition may be a necessary, but not sufficient, condition for a stable inflationary environment.

31. Another relationship between inflation and competition could be a potential feedback effect if inflation itself led to reductions in competition, which in turn led to further systematic price increases. These considerations are discussed in detail in the next section, which considers how an inflationary environment affects the functioning of competition but are worth bearing in mind in this discussion.

32. The rest of the section is organised as follows. It starts by considering the potential for changes in competition, or low levels of competition in general, as an explanatory factor for the current crisis. In many ways, these arguments are not about inflation per se but about the effectiveness of anti-trust and competition policy in general. Therefore, the section considers these issues only briefly. Next, it considers the relationship between inflation and competition more generally. It considers how competition could affect inflation overall and summarises the empirical evidence available on the existence and potential magnitude of this effect.

33. The importance of distinguishing between these two points is to highlight that, even if the current inflationary period is not the result of competition issues, it does not mean that ensuring a competitive economy is not important for controlling inflation over the longer term. Competition may be a necessary, but not sufficient, condition for a stable inflationary environment.

### ***2.2.1. Decreasing levels of competition globally?***

34. There has been significant discussion in the economic literature, and from other commentators, on a perceived decrease in competition in many developed economies over the past few decades, including increased concentration of firms and higher markups.

35. Competition indicators, of which concentration is one, do not provide a definite conclusion on the intensity of competition (OECD, 2021<sub>[10]</sub>).<sup>14</sup> Measuring competition is not straight-forward and has many methodological challenges. Nonetheless, there is evidence to suggest that the past few decades have experienced a reduction in competition in many jurisdictions across a broad range of competition indicators.

36. For example, there is evidence that the average mark-ups have increased in the United States, from around 21% in 1980 to 61% in 2016 (De Loecker, Eeckhout and Unger, 2020<sub>[11]</sub>). Further, analysis suggests that both concentration and aggregate profitability has increased in several major European countries in the past two decades, in line with the experience in the United States (Koltay, Lorincz and Valletti, 2022<sub>[12]</sub>). This phenomenon can be observed in a number of OECD nations, such as Belgium (De Loecker, Fuss and Van Biesebroeck, 2018<sub>[13]</sub>), and research has also shown moderate increases in market power since 2000 across a broad set of countries (International Monetary Fund, 2019<sub>[14]</sub>) and (Calligaris, Criscuolo and Marcolin, 2018<sub>[15]</sub>).

37. As noted above, measuring competition is not straight-forward, and measures of competition must be carefully analysed. For example, some evidence suggests that some of the rising mark-ups could be attributed to reductions in the price sensitivity of consumers (Döpfer et al., 2022<sub>[16]</sub>).

38. This discussion is indeed interesting, and its conclusion no doubt important for the broader competition policy field, with many arguing that such a finding suggests the need for significant reforms, for example (Akcigit et al., 2021<sub>[17]</sub>) amongst many others. Fundamentally though, this discussion does not belong in a paper on competition and inflation, which will ultimately be unable to do it justice.

39. Further, despite the broad range of research, an increase in concentration clearly does not explain the recent uptick in inflation by itself. Indeed, some of the research noted above finds evidence of increased

concentration many years before the recent inflation uptick. The increase in concentration has been gradual and it is not clear what would suddenly tip things over the edge. For competition level changes to be directly behind the current increases in inflation rates globally, it would require that the reduction in competition had hit a critical point upon which firms suddenly acquired substantial market power that allowed them to simultaneously raise prices. For this to occur systematically across such a wide range of different markets seems unlikely.<sup>15</sup>

40. Nonetheless, even if we accept that changes in the level of competition do not directly explain sudden spikes in inflation, this does not mean that there is no meaningful relationship between the two. It should be remembered that the overall level of competition is a highly relevant question for many aspects of the effect of competition on inflation. For example, some research has suggested that the rising concentration is an amplifying factor in the current inflationary environment, and the rest of this section discusses some of the reasons why that might be (Bräuning et al., 2022<sub>[18]</sub>).

### 2.3. Exacerbating inflation through weak competition

41. Beyond direct effects of competition on inflation, there are two broad categories of mechanisms by which competition may affect, or exacerbate, inflation. Firstly, the level of competition may affect how changes in costs are passed through to end prices in the short-term. This relates to how demand and supply shocks transition into prices and ultimately inflation. Secondly, competition is central to the functioning of markets, and imperfect markets may alter the determination of inflation over the longer term.

#### 2.3.1. Competition and pass-through

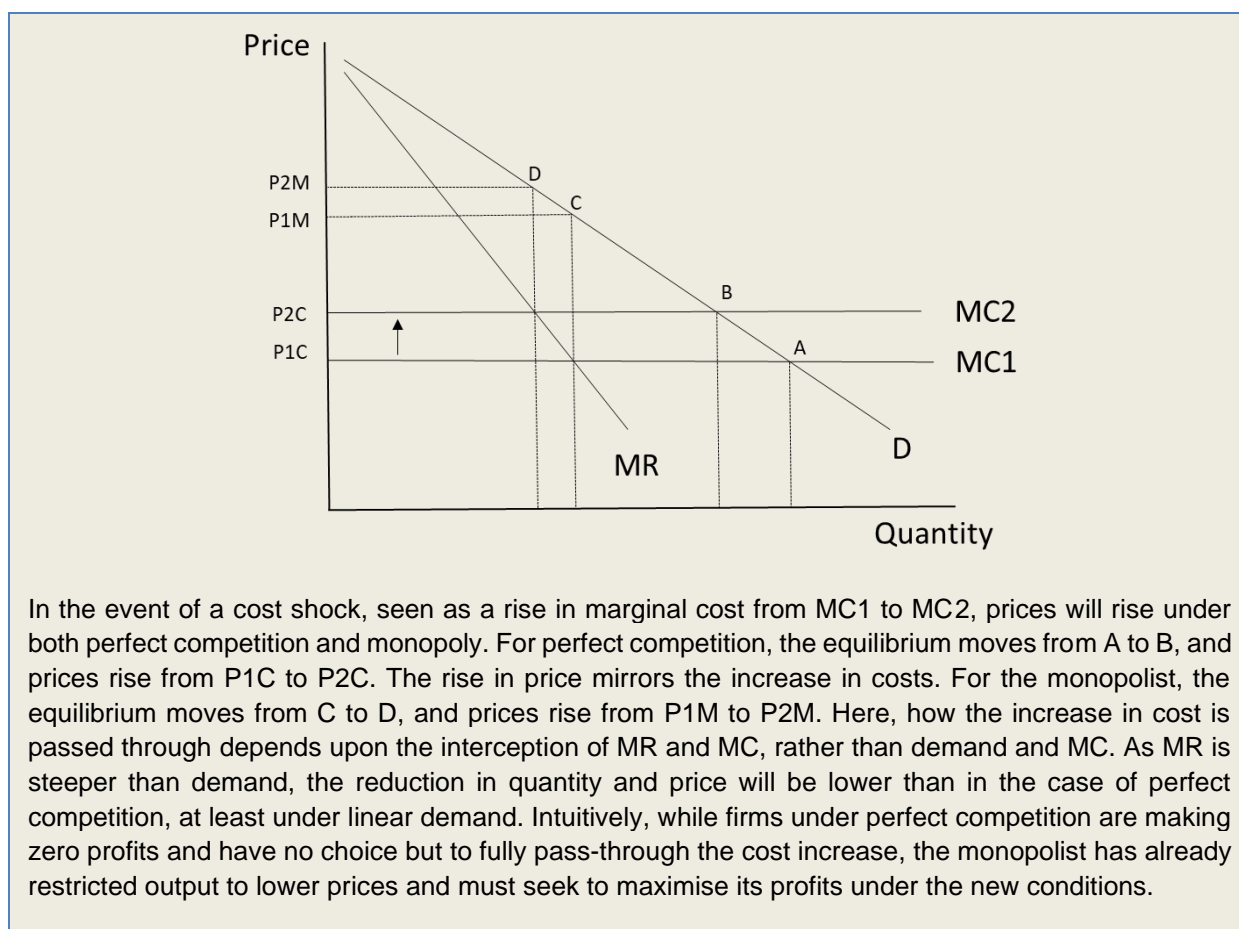
42. Pass-through considers how changes in costs are passed through to prices by firms. It is an important dynamic in inflationary environments, especially when inflation is being driven by cost increases in key inputs (such as energy or distribution).<sup>16</sup>

43. The relationship between pass-through and inflation is potentially complex. On the one hand, higher pass-through implies that increases in price will result in further spill-over effects. For example, as higher prices increase costs for others who subsequently increase their prices as well. However, if pass-through is immediate then it could lead to higher temporary inflation that dissipates quickly, compared to more persistent inflation if prices were to adjust more slowly to changes in costs. This would not be the case if cost increases led to reductions in profit margins/ mark-ups rather than being passed through into costs.

44. How competition affects the rate of pass-through is quite straight-forward in theory. In theoretical models, in the extreme, perfect competition sees all cost increases passed through, while monopolists do not. Box 1 summarises some of these concepts from economic theory.

#### Box 1. Simple illustration of effect of market structure on pass-through

The figure below illustrates the effect of an increase in costs in a market with perfect competition and a monopoly. In perfect competition, prices are set equal to marginal cost (MC) and quantity is set where MC meets demand (D). For the monopolist, quantity is set at the intersection of marginal revenue (MR) and MC, with price set on D for this quantity.



45. In reality, how changes in costs are passed through is not straightforward and will depend on the circumstances (RBB Economics, 2014<sup>[19]</sup>). Some literature suggests that rather than pass-through itself, it is the speed of pass-through that changes with competitive intensity, with some suggestions that less competitive markets are slower to adjust prices (Asplund and Friberg, 1998<sup>[20]</sup>). A slower adjustment of prices could imply lower, but more persistent, impact of supply shocks on inflation.

46. However, a recent paper by researchers at the Federal Reserve Bank of Boston suggests that more costs are passed through in concentrated industries (Bräuning et al., 2022<sup>[18]</sup>). Using data on industry-specific cost shocks to control for the fact that many shocks affect both costs and prices, the authors consider how changes in concentration levels within industries, measured by the Herfindahl-Hirschman Index, affect how these shocks influence prices. Their results suggest a significantly higher rate of pass-through from cost shocks in concentrated industries. Specifically, they suggest that a reduction in competition akin to their estimated increase in concentration in the United States between 2005 and 2018, results in 25 percentage points higher pass-through of a cost shock for nine months.

47. While recent and from only one country, this research provides evidence of the role that competition can play in reducing inflationary pressures across an economy. Another way to consider the incidence of pass-through is to look at the profitability of firms. Unsurprisingly, given the recent nature of the current inflationary period, there appears to be relatively little empirical research into how recent increases in inflation have affected overall levels of profits. As noted above, there are also likely to be practical challenges in measuring profits.

48. Several commentators have suggested that rises in corporate profits account for a significant amount of current inflation.<sup>17</sup> This is often in the context of considering the policy response to inflation, for

example the introduction of windfall taxes. However, some analysis suggests that inflation has coincided with higher markups, at least in the United States.

49. For example, in a recent paper for the Roosevelt Institute, Mike Konzcal and Niko Lusiani analyse data on profit margins in the United States and argue that, as well as supporting demand and supply explanations for high inflation, there is evidence that market power has also been a factor (Konzcal, Lusiani and Institute, 2022<sup>[21]</sup>). This is because, according to their analysis, data suggests many firms have substantially increased mark-ups in 2021. The authors extend the analysis of (De Loecker, Eeckhout and Unger, 2020<sup>[11]</sup>) and find that 2021 had the highest markups on record and the largest annual increase between 1955 and 2021. Interestingly, the analysis suggests that firms that increased markups the most were those with the higher mark-ups prior to the economic shocks. This result implies prices may have risen faster than costs, although whether such a result is temporary and whether it would be found across other countries is unknown.

50. Understanding whether price rises reflect genuine changes in costs or increases in profits is not straightforward. Some survey evidence suggests that many firms in the United States may be using the current inflationary period to increase prices further than required by inflation (Digital.com, 2022<sup>[22]</sup>). While fairly anecdotal, this corroborates the evidence on profits discussed above which suggests that prices are increasing faster than costs. An alternative explanation to market power could be if there were substantial costs in changing prices (also known as menu costs). In such circumstances, larger than required price increases could be explained by firm's expectations of further inflation and therefore a desire to minimise the future number of price changes.

51. The discussion above reflects recent developments in the literature and focuses on one country, making it premature to make any firm conclusions. Nonetheless, it provides some support to the idea that even if competition issues have not driven the current rise in inflation, it is possible that it has exacerbated it somewhat.

## 2.4. Relationship over the longer term

52. Beyond the recent increase in inflation, which necessarily focuses on the short-term impact of competition on inflation, there are a number of reasons to think that competition will have an impact on inflation over a longer timeframe. This final section considers some of the mechanisms by which this might occur before discussing the empirical evidence on the relationship between competition and inflation.

### 2.4.1. Functioning of markets

53. The general competitiveness of markets could have an impact on the determination of inflation over the longer term.

54. Markets that are competitive function better and should be more flexible. This flexibility translates into being able and willing to adjust prices faster, reducing inflation persistence, and being able to substitute inputs, reducing inflationary effects from shocks (Przybyla and Roma, 2005<sup>[23]</sup>). To put this another way, in the face of an inflation causing a rise in demand, aggregate supply needs to expand outwards to meet this, and competitive markets will be better able to do so compared to less competitive markets.

55. Further, concentrated supply chains due to less competition are also likely to be more brittle and more susceptible to shocks. For example, many have argued that the COVID-19 pandemic has illustrated this, with firms potentially able to capture higher markups as a result of disruption.<sup>18</sup>

56. Another related longer-term effect of competition on inflation is the increased productivity and innovation that comes from greater competition (Ahn, 2002<sup>[24]</sup>). Productivity growth and high levels of

innovation will reduce inflation over the longer-term, increasing the ability of economies to produce more with less, creating downward trends on prices.

### **2.4.2. Competition and monetary policy**

57. Competition can also interact with inflation policy and in particular monetary policy. There are two main ways in which competition might interact with monetary policy. Both build upon some of the logic explained in the previous section, largely that imperfect competition affects the efficiency and efficacy of markets and, by extension, how economies work.

58. The first is often referred to as dynamic inconsistency theory (Przybyla and Roma, 2005<sup>[23]</sup>). Here, lower levels of competition reduce overall output from firms and, as a result, central banks seek to improve output by pursuing economic growth through expansionary monetary policy, at the expense of causing higher inflation. This has elsewhere been referred to as the inflation bias (Chen, Imbs and Scott, 2004<sup>[25]</sup>). The essence of this theory is that increased competition across the economy increases output, reducing the gap between the actual steady-rate level of output and the best obtainable. Thus, in such a model, if competition is increased, then the inflationary bias of seeking to increase output should be lowered, and vice versa.

59. Second, there has also been research to suggest that a lack of competition, which could result in a higher number of larger firms, reduces the impact of monetary policy in controlling the inflation rate in an economy (Romain Duval et al., 2021<sup>[26]</sup>). This research considered data from 15 advanced economies and studied the response of firms to monetary policy shocks, finding that larger firms were less sensitive to monetary policy. The authors suggest that the mechanism is driven by large firms, or those with significant market power, being less sensitive to changes in the cost of external finance and therefore less responsive to changes in interest rates. Hence, if lower levels of competition increase the propensity of larger firms, then this will reduce the ability of central banks to use monetary policy to control inflation.

### **2.4.3. Empirical estimates of the effects of competition on inflation**

60. Having considered the basis upon which competition could affect inflation, this section considers whether there is any empirical evidence to support the claim that competition is relevant to a discuss on inflation. There is substantial empirical evidence confirming the role of competition in contributing to the level of inflation. This literature has many contributions, discussed below.

61. There are undeniable challenges in estimating the link between competition and inflation. One issue revolves around data, including the difficult in measuring competition as discussed above. Another is how to determine the causality of the relationship, namely whether it is competition affecting inflation or the other way around. This is particularly valid given the discussion in the next section. Further, most of the studies discussed below seek to control for other factors that would affect inflation, including monetary policy, but it is still possible that other factors that are not captured in the models have an important effect on inflation.<sup>19</sup>

62. In 2003, (Cavelaars, 2003<sup>[27]</sup>) analysed the relationship between average inflation and competition, measured by markups and as the OECD Product Market Regulation indicators, for 21 countries between 1988 and 2000. He finds that both potential variables for competition have significant effects on the trend level of inflation and that there is a significant negative relationship between average inflation and competition over the period, although the estimated relationship is stronger for markups than the index of economic regulation. This suggests more competition leads to lower inflation.

63. The findings are supported by other studies which shows similar relationships between average rates of inflation and competition. Other research focussed on the United States finds that a proxy for goods market competition has a negative effect on inflation (Duca and VanHoose, 2000<sup>[28]</sup>). (Przybyla and Roma, 2005<sup>[23]</sup>) finds similar results for EU countries between 1980 and 2001 and shows relationships

between a wider set of metrics of competition, and even extends the analysis to consider sector level data within countries. Similarly, (Janger and Schidt-Dengler, 2010<sup>[29]</sup>), finds evidence of a strong negative relationship between inflation and competitive intensity, although notes that intuitively changing competition intensity is unlikely to have a major impact if other factors point to upward pressure on inflation. Other research also finds evidence of a similar relationship for a wider set of countries over the 2008 to 2011 period (Hosny, 2014<sup>[30]</sup>).

64. Other work has made similar findings in the context of studying the effects of increased globalisation and trade openness, and subsequent increases in product market competition, on inflation. Research from the OECD suggests that integration with global supply chains has reduced inflationary pressures (Andrews, Gal and Witheridge, 2018<sup>[31]</sup>). In another example, (Chen, Imbs and Scott, 2004<sup>[25]</sup>) tests the relationship between prices, trade-openness and markups for eight European countries and find a positive deflationary effect for trade openness. Based on these results, they argue that trade openness could account for up to a quarter of the lowered inflation observed in Europe during the 1990s. Some of this could be attributed to a one-off reduction in competitive levels, similar to a one of shock, which would be the inverse of the merger to monopoly analogy discussed in section 2.2.

## 2.5. Summary

65. In considering the relationship between competition and inflation, it is important to remember that the dynamics of inflation are complicated and fully understanding them is unlikely to be a requirement for competition authorities. Despite this, inflation is on the rise and so it is worth considering the role of competition in contributing to this.

66. While there is some evidence that competition may be decreasing overall on a global level, this in itself is not the primary cause of the current inflation, at least not directly. However, competition may have had a minor role in exacerbating inflationary pressures, with some recent research suggesting that reductions in competition could be responsible for higher rates of cost pass-through and corporate profits, exacerbating some of the inflationary pressures. There seems to be at least an argument that inflation might be somewhat lower if markets were more competitive, but whether this effect would be significant, and how much more competitive they would need to be to make a difference, is difficult to say. Overall, it appears hard to argue that the effect would be substantial, particularly in the short-term, given the significance of external factors.

67. Beyond the current inflationary environment, competitive markets are vital to well-functioning economies, and this includes a contribution to lowering inflation. Numerous empirical studies support this relationship and there are several supporting theories for how this mechanism occurs, including through more productive flexible markets, and more effective and less distortionary monetary policy. There appears to be a strong basis to think that supporting competitive markets will have an overall beneficial effect on inflation.

68. It is worth noting however, that this relationship does not imply that competition is a key factor in determining inflation and, perhaps crucially, focuses on the long-term relationship between the two. Improving competition across economies should lead to lower inflation than otherwise, but competitive markets will not guarantee low inflationary environments by themselves.

# 3. Does inflation pose risks to competition?

69. The previous section considered the extent to which the level of competition can affect levels of inflation. When considering the links between competition and inflation, it is also natural to consider the reverse, namely the extent to which inflation affects the level of competition.

70. It is important that competition authorities understand the threats to competition in their jurisdiction. Many countries have been experiencing low and stable inflation for many years and the recent uptick therefore represents a significant change. This section considers whether this change could lead to risks to competition that the authority should be aware of. It does not consider how authorities should respond, which is the subject of the final section.

71. Inflation concerns prices, which are often a key determinant of product demand and hence a fundamental parameter that firms consider when competing. This creates the potential for inflation to impact upon competition.

72. The section starts by considering the overall effects of inflation on competition. It then considers the effect of competition on individual markets from two different perspectives. First, it considers how inflation may influence how firms adjust their offerings to compete with rivals. Second, it discusses how inflation may affect how consumers are able to process information on prices and therefore indirectly affect how firms compete.

## 3.1. Effects of competition on inflation

73. As noted above, pricing is an important parameter of competition in most markets and inflation changes pricing dynamics. In times of high inflation, nominal prices need to change frequently as not to do so implies significant reductions in real prices.<sup>20</sup> This has the potential to interfere with a key dynamic of competition, namely how firms set their prices in order to compete for customers. As noted above, this section considers two main ways in which this might influence inflation.

74. Firstly, as prices are changing frequently, inflation makes it more difficult for firms to know what prices their rivals are charging.<sup>21</sup> This could lead to situations where firms price too low to maximise their profits. However, under differing circumstances, it could also affect the likelihood of firms acting in a coordinated manner. High inflation could either undermine collusion between rival firms or, alternatively, provide the perfect cover to align and increase prices together.<sup>22</sup>

75. Technology could also have an effect on the ability of firms to sustain coordinated outcomes in times of high inflation, with algorithms potentially making it easier for firms to monitor and react to firms in some markets (OECD, 2017<sup>[32]</sup>). With prices changing frequently, it may be surprising if rival's prices were to follow each other particularly closely, potentially indicating that technology is facilitating synchronised movements.

76. Secondly, how responsive consumers are to changes in price, the price elasticity of demand, depends upon how consumers perceive that firm's offering in relation to others. With nominal prices changing frequently, it may be more difficult for consumers to know how a firm's price compares to its rivals. If so, the firm will face an incentive to increase prices further as it can earn higher profits per sale while risking the loss of fewer consumers.

77. All these effects appear to work in different directions. In contrast to the literature studying the longer-term effect of competition on inflation, the reversed relationship shows mixed results in the literature.

78. On one hand, some literature suggests it might be harder to sustain a cartel in the face of inflation, as an unstable environment affects ability to coordinate. With prices changing regularly it is harder for firms to maintain coordinated outcomes and, such errors induce uncertainty which makes it more difficult to ascertain whether rivals have decided to adopt alternative strategies. For example, (Duersch and Eife, 2014<sup>[33]</sup>) find that inflation and deflation can lead to significantly lower real prices. Other research also appears to support the idea that, over the longer term, inflation has a negative effect on real prices (Banerjee and Russell, 2001<sup>[34]</sup>).

79. (Gwin and Taylor, 2004<sup>[35]</sup>) on the other hand, use data on purchasing performance benchmarks to consider how search costs changes the effect of inflation on competition. Their analysis suggests a significant role for search costs in amplifying inflation's impact on competition, suggesting that in sectors where it is harder for consumers to identify information on prices, firms are likely to face less effective competition from rivals, and can raise prices accordingly.

80. More generally, inflation can also impact the incentives for firms to innovate, potentially reducing the benefits to competition from innovation by firms (Funk and Kromen, 2010<sup>[36]</sup>).

81. Ultimately, the key question for competition authorities is whether there exist risks to competition and, if so, where these are. As such, the rest of this sector focuses on the risk to competition from the two dynamics discussed above.<sup>23</sup>

## 3.2. Firms' reaction to inflation

82. As discussed in detail in the discussion above on pass-through, in an inflationary environment, nominal costs are likely to be rising for many businesses. This will put pressure on them to raise their own nominal prices, irrespective of the competitive situation they face.

83. Measures to decrease costs such as increasing economies of scale through mergers may become increasingly attractive. This is an issue worth considering in the context of merger control, and there is a well-developed set of precedent in how to take account of failing firm issues. As changing prices frequently can be costly, and firms may do so at additional speeds, firms may also seek ways to reduce price competition such that they can increase prices without losing many sales.<sup>24</sup> As above, mergers could be one mechanism to achieve this.

84. There is also a risk that inflation creates an environment that encourages coordinated price rises in response to cost pressures. There may be added incentives for businesses to form explicit cartels and discuss strategies to deal with cost increases in times of high inflation.

85. However, there may be mechanisms to reach such agreements without forming what we would consider "traditional" cartels. In a high inflationary environment, communicating price rises to consumers is a natural, and important, part of market functioning (OECD, 2010<sup>[37]</sup>). However, there may be risks of signalling behaviour by firms which allows them to arrive at coordinated outcomes with rivals, without explicit agreement or even any discussion.<sup>25</sup>

86. Several commentators have spoken about the risk that inflationary pressures provide cover for price increases.<sup>26</sup> At first glance, it may seem that inflation will reduce the likelihood of tacit coordination.

While the ability of firms to tacitly coordinate will depend on many factors, including the number of competitors and the complexity of the products, prices changing rapidly should make tacit coordination more difficult, all else equal. This is because, as discussed above, it will be harder for firms to monitor each other's prices and detect whether coordination is being sustained.

87. However, in an inflationary environment it is likely that both businesses and consumers will expect price increases. This mutual understanding could provide an increased risk of coordinated action between firms, even without a traditional cartel.<sup>27</sup> For example, there is a risk that industry organisations or trade associations could play roles in facilitating the conditions for collusive behaviour (OECD, 2008<sup>[38]</sup>). These organisations have the potential to play an important and positive role and, in the context of rising cost pressures, may be needed more than other times. However, there is the potential that information exchanged during these meetings can be used to align price increases.

88. Further, and potentially of highest concern during times of inflation, firms may seek to use public announcements to signal their desire to increase price and use this to find mutual understanding with competitors. Pricing announcements could be made through press releases or interviews, wide emails to customer lists or even on earnings calls.<sup>28</sup> In an inflationary environment, there may be particular desire by firms to communicate pricing with consumers, and it is important that authorities are able to distinguish between genuine public announcements and those made with the intention of forming a collusive outcome, or mutual understanding or agreement (OECD, 2012<sup>[39]</sup>). This may not always be straightforward.

89. Evidence of firms regularly following each other with pricing announcements, as well as announcements that do not contain specific information but rather general intentions to increase prices, could indicate announcements forming the basis for coordination. This could also be the case if the announcements are made well in advance, or if there are frequent examples of planned increased later being revised. The latter could imply that the announcement was testing a proposed increase with rivals that was not successful. Box 2 provides a summary of some public guidelines released by authorities, as well as a case example, concerning pricing announcements.

## Box 2. Guidelines on legality of public announcements

### European guidelines on horizontal cooperation

The European Commission provides guidance to firms on the applicability of Article 101 in relation to horizontal co-operation. These guidelines contain a number of specific references to public announcements and their likely treatment under the law.

The guidelines highlight the importance of strategic uncertainty between rivals and the role that the exchange of information can play in reducing this uncertainty. As such, the guidelines note that exchanging information can constitute a concerted practice. Further, the guidelines explain that it follows that there is a possibility of finding a concerted practice when firms make announcements. Specifically, paragraph 63 of the guidance states that:

*“Where a company makes a unilateral announcement that is also genuinely public, for example through a newspaper, this generally does not constitute a concerted practice within the meaning of Article 101(1). However, depending on the facts underlying the case at hand, the possibility of finding a concerted practice cannot be excluded, for example in a situation where such an announcement was followed by public announcements by other competitors, not least because strategic responses of competitors to each other's public announcements (which, to take one instance, might involve readjustments of their own earlier announcements to announcements made by competitors) could prove to be a strategy for reaching a common understanding about the terms of coordination.”*

The Commission's approach in relation to price announcements is further explained in footnote 58 of the guidance. In the footnote, the Commission explains that when announcements correspond to committed prices or quantities that cannot be revised, they are unlikely to be found to restrict competition by object. It notes that this could occur when it is essential for customers to know prices in advance or when they can make advanced orders. The footnote closes by noting the following:

*“However, this does not imply that in general price commitment towards customers is necessarily pro-competitive. On the contrary, it could limit the possibility of deviating from a collusive outcome and hence render it more stable.”*

### **European container shipping case**

A case where the nature of pricing announcements has come under scrutiny, is the European Commission's investigation into several container shipping companies, which culminated in a commitment decision in 2016. The investigation concerned the practice of the companies in regularly announcing their intended future price increases, including details of the amount of the increase and planned date for the implementation, usually several weeks away. The Commission found that the process usually involved one party making an announcement, with others following shortly after with similar announcements. Interestingly, they noted that sometimes the announcements were not followed through with actual increases and the proposed changes were updated. From its preliminary assessment, the Commission was concerned that the announcements provided an opportunity for shipping companies to test the market to see whether they could implement a price increase.

The parties under investigation did not agree that they had engaged in a concerted practice. However, in response to the investigation, they made commitments that were accepted by the Commission. The commitments, which were to last three years, were that the price announcements:

- Would contain detailed information on the new prices to be charged
- Not be made more than 31 days in advance
- Be binding as maximum prices

Sources: European Commission, 14 January 2011, Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements; European Commission, Commission Decision AT.39850 Container Shipping, 7 July 2016.

### **3.3. Consumer decision making under inflation**

90. Competitive markets rely on a well-functioning demand side. This means consumers having access to the information they require to make informed decisions, the ability to process that information and then acting on it.<sup>29</sup>

91. Prices are an important parameter for consumers to consider in selecting products or services. Within an inflationary context, prices change often. This could make it more difficult for consumers to obtain accurate information on the relative prices of different competitors.

92. Prices that change regularly require consumers to frequently access pricing information to make informed purchasing decisions. Obtaining pricing information is likely to be costly for consumers, and these search costs will lead to consumers having lower quality information on prices. There may also be reasons that they do not choose to engage in those costs if they perceive limited value in doing so, for example if they have a general perception that all prices are rising and there are therefore limited gains to be made by exerting switching effort.

93. If consumers are less aware of prices, this reduces the incentive for firms to reduce prices. This is because reducing prices has two opposing effects: firstly, a reduction in per unit profit due to the lower

price and secondly, higher profits due to more sales as customers switch to the now lower priced product. For firms to have the incentive to lower prices, this second effect needs to outweigh the first. This is less likely as consumers become less well informed about prices.

94. There is evidence to suggest that high search costs lead to increased profits for firms in the face of inflation (Gwin and Taylor, 2004<sup>[35]</sup>). More generally, there has been significant study of the relationship between inflation and relative price variability, although the evidence overall appears to be mixed (Siklos et al., 2018<sup>[4]</sup>). Relative price variability can be one measure of increased search costs as, all things equal, it implies that consumers are not taking advantage of potential price reductions. There is some evidence that inflation leads to increased price dispersion between firms, suggesting a reduction in competition (Chirinko and Fazzari, 2000<sup>[40]</sup>), but other studies have found negative relationships between the two (Ioannidis and Silver, 2001<sup>[41]</sup>). Research from Israel suggests that this variation in price can become even more extreme in very high inflationary environments (Lach and Tsiddon, 1992<sup>[42]</sup>).<sup>30</sup>

95. Authorities may therefore wish to consider how consumer search costs could be eased in a high inflation environment and be concerned about firms not providing easily accessible information to consumers. It is worth noting here the careful balance between this and the potential for price announcements to be used to facilitate collusion discussed above.

96. Another potentially relevant consideration in the context of consumer decision making and inflation could be “shrinkflation”. Shrinkflation is a reduction in the volume of a product without a subsequent reduction in price. This is still inflation, as the unit price of the product has increased, yet it may be less likely to elicit a demand response than an increase in price if consumers are less aware of the volume reduction. There is evidence that consumers are less likely to switch away from products due to a volume reduction than a price increase.<sup>31</sup> This could create incentives for manufacturers, in particular of consumer goods, to reduce the volume of a product whilst seeking to maintain the same price level.<sup>32</sup>

97. Such practices have the potential to further undermine the ability of consumers to make informed choices between potential alternative products, reducing competitive pressure on suppliers. More generally, an inflationary environment may create environments in which firms need to carefully consider their obligations to inform consumers.

### Box 3. Role of consumer protection in supporting competition during times of inflation

Consumer protection is an important part of maintaining competitive markets. Consumer protection should ensure that consumers have confidence in the information they receive when engaging in markets. They should also be provided with sufficient protection in relation to misleading and unfair contractual terms. For example, the OECD recommendation concerning action against inflation in the field of Competition Policy (described in Box 4) also notes that consumer policy is essential for effective functioning of price and quality competition through its contribution to rational consumer behaviour.

In an inflationary environment, where prices may be changing rapidly, it is important that consumers understand the prices that will apply to a particular transaction. This should also apply to any terms in relation to cancellation, for example if a booking is cancelled due to changes in price, or consumers rights if firms seek to change prices from those previously agreed.

Further, and relatedly to the discussion on shrinkflation above, there may be incentives for firms to increase the complexity of their charging structures to obscure necessary price rises from consumers, for example through the introduction of additional types of fees. As above, the introduction of these fees should be clear to consumers and should respect any outstanding contractual rights.

Source: OECD (2010), Consumer Policy Toolkit, OECD Publishing, Paris, <https://doi.org/10.1787/9789264079663-en>.

# 4. What can competition authorities do in inflationary periods?

98. The previous chapters have considered the links between competition and inflation. There is likely to be increased public pressure on competition authorities to act in the face of perceived high prices, and therefore authorities risk of looking out of touch if they do nothing. Irrespective of the causes of inflation, increased competition can lead to downward pressure on prices, although barring deterrent effects this will be limited to the sector or sectors investigated. There is however always the risk of over enforcement and the potential to introduce additional costs to businesses during times that are already challenging.

99. This section first considers the case for the relevance of competition policy in the fight against inflation, considering both a short and longer-term perspective. Next, assuming there is at least some relevance, the paper considers what this might mean for authorities in practice.

## 4.1. Relevance of competition policy as an inflation fighting tool

100. As noted in the introduction, there has been a longstanding discussion around the role of competition policy in fighting inflation, and indeed the OECD previously adopted a recommendation affirming this role (see Box 4 for more information on the recommendation). Since then, even prior to the recent inflation uptick, there have been discussions regarding the role of competition policy in fighting inflation, for example (Böheim, 2008<sup>[43]</sup>).

101. Fast forward to today and there has been significant discussion, particularly in the media, from commentators on the potential role for competition policy in fighting the current inflationary period.<sup>33</sup> Some have argued that competition is invaluable to maintaining the purchasing power of consumers. For example, despite its position that competition is unlikely to be the cause of the current high levels of inflation, the Portuguese competition authority argued in a recent piece that competition has an important role in times of inflation (Autoridade da Concorrência, 2022<sup>[44]</sup>). The piece highlighted the potential benefits that competition can bring to consumers, as well as workers and taxpayers. It notes the importance of advocacy and enforcement.

102. It would be hard to argue that, if competition problems are at the core of inflation, competition policy is not a vital inflation-fighting tool. That is however, as discussed above, quite a big if. What role should competition policy have as an anti-inflation tool if, as seems likely, competition issues are, at most, minor causes to the current inflationary trends. Further, could there be a role for competition policy even if inflation and competition are related only in the long-term.

103. The goal of competition policy is, notwithstanding debate on the exact nature of welfare standards, to improve competition for the benefit of consumers and society at large. A relevant question then, could be why competition policy should be any different in the context of inflation? After all, competition policy is always about increasing competition which should, although not exclusively, reduce prices at any time. Two reflections are worth considering in this context:

1. Firstly, if competition policy did have the potential to perform any sort of anti-inflationary role, then this could provide strong support for an increased role for it among the tools countries employ in response. This implies an uptick in competition authority's resources, which would be in line with the OECD's recommendation back in 1971 that governments should make sure authorities have the resources they need to enforce competition laws.
2. Secondly, given the potential harms from high inflation, there may be merit in considering the mix of work that authorities undertake. Fundamentally, this is a question of prioritisation.

#### Box 4. OECD Council recommendation concerning action against inflation in the field of competition policy

The OECD Council adopted a recommendation concerning action against inflation in the field of competition policy on 14 December 1971. The recommendation noted that effective competition policy is one important factor in achieving economic growth and price stability and that, through its effects on costs, prices and profits, competition can contribute to the fight against inflation. It is noted that the impact of competition policy is usually apparent in the long-term, suggesting that fiscal or monetary policy will be more immediate.

Given this, the recommendation signals the need for more emphasis on competition policy and against restricted business practices. In particular, it recommends that member countries:

- Apply with greater vigilance provisions against price-fixing or market sharing, against monopolistic practices affecting price and restrictive practices in the field of patents and patent licensing.
- Regularly review pricing situations in key sectors of the economy, where these have oligopolistic or monopolistic structures to reduce any excessive prices by means at their disposal.
- Ensure that authorities have sufficient resources at their disposal to carry out the means above.
- Strengthen consumer protection measures.
- Consider adopting a number of longer-term measures, including increased legislation against various type of anti-competitive conduct.

In 1971 the average inflation rate in the OECD was 5.7%, although as seen from Figure 1 it increased shortly after. The recommendation was abrogated on 12 July 2017 as it was found to be obsolete, given that the situation, namely high inflation, no longer existed.

Source: OECD Legal Instruments, Recommendation of the Council concerning Action against Inflation in the Field of Competition Policy, 14 December 1971, OECD/Legal/0097, <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0097>; OECD (2022), Prices: Consumer prices, Main Economic Indicators (database), <https://doi.org/10.1787/0f2e8000-en>

#### 4.1.1. Impact of competition policy on lowering prices

104. As noted from the section above, and interestingly also noted in the OECD's 1971 recommendation, competition policy is unlikely to be the prominent anti-inflation tool used by governments. It does not follow however, that competition policy has no beneficial effects on inflation.

105. After all, competition policy increases competition and lower prices. For example, analysis by the European Commission suggests that competition policy enforcement reduced the overall price level in the European Union by an average of 0.63 percentage points per year over the period of 2012-2020 (European Union, 2022<sup>[45]</sup>).<sup>34</sup> Lowering prices offsets inflation, although it is important to note that while the size of

this effect is impressive, it suggests that one should be cautious in setting expectations that competition policy will be able to have a meaningful impact on bringing inflation down in the short-term. Clearly the impact of any individual piece of enforcement will be much lower.

106. As well as the size of any pricing effects, another important point to consider is that even if competition were a factor in the current inflationary trends, competition policy takes time to implement. This will be true even in the event of substantial increases in budget. There are three aspects of timing:

- Time to reach decisions, including identifying potential issue and commencing investigation or action.
- Implementation time of any remedies or outcomes.
- Time for the effects of remedies and outcomes to occur.

107. While making robust and procedurally sound decisions as quickly as possible will be the aim of all authorities, this does not change the fact that making decisions takes time. This is notwithstanding the time it takes for any decision to have an effect. As an example, analysis by the OECD Competition Division's Competition Trends work suggests that the average duration for an international cartel investigation is 2.8 years (OECD, 2020<sub>[46]</sub>).<sup>35</sup>

108. Taken together, this suggests caution in considering the potential role for competition policy as a short-term anti-inflationary tool, due to the speed and impact of any action. Interestingly, while there is still debate around the causes and end of the inflationary period across the OECD in the 1970s, it does not seem that competition policy was considered critical in ending it (Collard and Dellas, 2007<sub>[47]</sub>).

#### **4.1.2. Should authorities be tasked with controlling inflation?**

109. Competition authorities are traditionally not tasked with controlling inflation. Their aims are generally to improve competition, usually under a broad range of definitions of what is often described as a consumer welfare standard.

110. As noted above, while competition policy has many important benefits, including potentially an anti-inflationary effect in the long-run, care should be taken not to hold competition authorities responsible for fighting inflation. Such a stance would necessitate a change in their objectives and potentially risk undermining their longer-term goals.

111. To hold the authority accountable for general inflation, which as noted above has many significant causes, is unlikely to be a sensible aim. Competition authorities generally do not have expertise in inflation. Further, managing inflation is often a task for the central bank. If the competition authority were to suddenly have inflation as an objective, this could create challenges with dual agencies now responsible for the effort.

112. That said, competition policy champions the role of competition in providing benefits to society. Usually this focuses on consumer welfare, although the exact scope of this is often debated. Nonetheless, even within a broad definition of these goals, if competition policy can achieve beneficial reductions in price rises that have further beneficial effects of tempering inflation, this is something that should be carefully considered, providing it does not undermine longer term objectives.

113. It is important to distinguish here between how resources are prioritised and the objectives of the competition authorities. Being mindful of how potential interventions could affect inflationary pressure does not equate to taking responsibility for controlling inflation or suggest that inflationary pressures should factor into actual enforcement decisions.<sup>36</sup> Doing so risks undermining the well-established enforcement regimes of competition authorities and create complex trade-offs that authorities are unlikely to be best placed to judge.

## 4.2. How should authorities approach high inflationary periods?

114. The next part of this section discusses how authorities should approach periods of high inflation, providing some examples of actions to consider.

### 4.2.1. Business as usual

115. Many authorities and policy makers will likely question the need for any changes in the face of high inflation. Indeed, there are perhaps good arguments that this is as it should be; if there is nothing wrong with the current approach, then why should it change?

116. In general, any changes that competition authorities might wish to make to their approach are likely to be minor by nature. Further, they can be considered reactions to the times rather than changes in approach. Certainly, long-term priorities should not be abandoned.

117. As discussed in detail above, the main benefits of competition policy in bringing down inflation is through the promotion of competition generally over the longer-term. Drastic change is therefore unlikely to be needed. In this respect, competition policy should be considered as a longer-term anti-inflationary tool even when conducted in a “business as usual” capacity.

118. In many respects then, competition authorities can continue as they have before, prioritising across a range of actions, such as advocacy and enforcement, for the long-term benefit of competition. The sections below discuss additional factors that may be worth considering, on the margin, in the context of high inflation.

### 4.2.2. Prioritisation of authorities' efforts

119. In a world of uncertainty and finite resources, authorities must prioritise how to focus their efforts to improve competition. Typically, a range of factors will be considered in doing so, including the fact that many activities for authorities will not be discretionary.<sup>37</sup>

120. How authorities prioritise is a complex and multi-dimensional balancing act. Given the potential harms from high inflation, to maximise the benefits of competition authority work, there may be merit in minor changes to how different potential sets of action are prioritised. As noted in the discussion above, this should not be seen as a significant departure from norms.<sup>38</sup> However, there is scope to consider whether the prioritisation decisions of competition authorities should differ in times of high inflation.

121. In times of high inflation, when contemplating complex decisions between prioritisation of different actions, authorities may wish to consider some increased preference for intervention or action against:

- Sectors that have a large effect on inflation, or where price reductions would have a meaningful impact on bringing inflation down. While this will likely seem business as usual, this suggests giving slightly more priority to interventions in larger sectors directly, rather than in interventions that are aimed to deter a wider set of conduct.
- Sectors with spill-over effects such that increased competition could have effects downstream as well. Analysis by the European Union notes that sectors with strong downstream links are likely to result in stronger spill-over pricing effects, and notes that industries such as finance, insurance and business services, resource extraction, the energy sector, basic manufacturing, and aspects of the transport network, are sectors that might elicit strong spill-over effects. (European Union, 2022<sup>[45]</sup>)
- Conduct that, if prevented, would impact sooner rather than later on prices or conduct, such that the benefits to consumers can be felt as soon as possible. For example, considering conduct related to price, rather than that focussed other dimensions of competition. Looking at such conduct is more likely to have a pricing effect.

- Sectors that may provide particular benefits to consumers if prices could be reduced, for example if a relatively small sector nonetheless attributed a significant amount to the cost of living for vulnerable consumers.<sup>39</sup>
- Conduct that is particularly related to inflation itself, such as coordination of price rises. Acting against such conduct could provide deterrence against others following suit.

### 4.2.3. Advocacy

122. One option for authorities is to undertake advocacy actions. Advocacy initiatives can take many forms and involve communicating ideas rather than taking enforcement decisions. As such, they often rely on whether other parties will act based on the communication. Nonetheless, in general advocacy can be undertaken relatively quickly and can certainly be effective.

123. At the outset, there may be a role for advocacy aimed at reducing the risk that competition policy is seen as a short-term anti-inflationary tool. As discussed above, there are limits to the role that it can play, and it is important that policy makers understand these limitations. To the extent they can, authorities may be able to highlight these limitations, whilst being clear of the steps that are being taken.

124. In this regard, as noted in the introduction, attention may turn on competition authorities during periods of high inflation. While a lot of this attention will be to put pressure on the authority to act, with competition in the spotlight, it also provides a potential opportunity to advocate for the importance of competition.

125. There could be several elements to this. It could provide an opportunity to explain the work of the authority and how this contributes to society. For example, an authority may wish to draw attention to work that it has undertaken over recent periods and the benefits of that work. An important tension to manage is expectations on short-term results regarding inflation and longer-term effects. While a difficult message to get across, given the opportunity, it may well be worth trying.

126. Box 5 contains examples of some recent communication actions by Competition Authorities. There is likely to be value in authorities discussing the success, or otherwise, of different actions to improve efforts in the future.

#### Box 5. Examples of authorities sharing key competition messages in times of inflation

##### **Papers on competition**

Authorities may wish to prepare short notes or papers that provide details on their views of the current inflationary environment and competition, and the work that they have done in this area.

An excellent and recent example is from the Portuguese Competition Authority, which in August 2022 released a note on competition and inflation. It highlighted the links between competition and inflation and provided a list of 15 key messages.

To start with, the note sets the context for inflation and argues that the current inflation seen in Portugal, and in other jurisdictions, is ultimately unlikely to be the result of a competition issue. The paper also provides a number of details on the work of the authority over recent times, explaining how this fits in.

The paper introduces a helpful graphic and concept to illustrate how its work is important in preserving the wellbeing of consumers, which it describes as the 360 approach. The approach is highlighted through a powerful graphic.

##### **Speeches highlighting role of competition**

Another option for authorities is to use the opportunity of speeches to discuss the relationship between competition and inflation and how this fits with the work of the authority. Speeches are common from many authorities and provide a platform to express viewpoints, sometimes less formally than through papers.

There are several examples of officials from competition authorities who have used a platform to speak about competition and inflation. For example, Commissioner Matthew Boswell from the Canadian Competition Bureau gave a speech in May this year highlighting the importance of competition for successful markets and noting that less competitive markets would make matters worse and that competitive markets make them better.

Source Autoiridade da Concorrência, Competition and Purchasing Power in Times of Inflation, August 2022; Remarks by Matthew Boswell, Commissioner of Competition, Centre for International Governance Innovation, 26 May 2022: <https://www.canada.ca/en/competition-bureau/news/2022/05/building-a-more-competitive-canada.html>

127. Beyond discussing the role of competition, advocacy can also be used to support competition in specific markets. In this context, two broad types of advocacy are likely to be relevant in times of inflation. The first concerns advocating for competition when it might be threatened by other government initiatives. A second type is advocacy that seeks to improve competition in a particular sector.

128. The first issue involves being mindful of risks to competition that might arise in an inflationary environment. This could be geared towards arguing for policies that do not unduly restrict competition, which could be a risk in these times. In times of high inflation, there is a significant risk of intervention beyond competition policy that, while fulfilling short-term policy objectives, may significantly impede competition and long-term detrimental effects to society. While it is not for authorities to decide on many of these policies, they can be well placed to offer advice and point out the potential for harm from them. This could include lobbying to reduce their form or duration to the minimum required.

129. With high inflation leading to rising prices, governments may be considering the adoption of various forms of price control regulation. Price control regulation has the potential to deliver benefits in some circumstances, but also risk undermining competition. It is important that price controls, especially if implemented temporarily, are not also a means of making sensitive business information public such that coordinating with rivals becomes easier in the future (Autoridade da Concorrência, 2022<sup>[44]</sup>). Box 6 discusses competition and price controls in more detail.

130. As an example of advocacy, the Spanish Competition Authority recently released a press release noting the importance of competition and warning about potential breaches of competition law, even if government mandated price caps were to be introduced.<sup>40</sup>

### Box 6. Competition and price controls

In times of raising prices, many governments may come under pressures to implement measures to control prices. Price controls can operate in several ways, but in essence, involve introducing an element of central control on price outside of the market. Their objective will likely to be reduce prices and constrain price volatility. As such, they represent significant interventions in how markets operate. Indeed, in some sense a price control could be seen as ending market operation completely. While the short-term benefits can be significant in some circumstances, given the significant effect on market operation, care should be taken in adopting them.

Prices are an important part of markets functioning effectively, as they send important signals to consumers and other suppliers. As noted in OECD (2012):

*“High prices signal to consumers that their chosen products are expensive to produce, causing them to seek cheaper alternatives if possible. High prices also signal to producers that they should invest to increase production. These responses by consumers and producers together can help to solve the imbalance that caused prices to spike. If prices are artificially held below the levels that reflect the supply/demand balance, neither consumers nor producers will respond like this, and the imbalances might persist.”*

As noted in OECD (2022), price controls can also reduce the incentives of suppliers to supply product. In the long run, this can cause shortages which have the effect of sustaining future inflation. These distortions are something that competition authorities should be prepared to point out to governments if they wish to implement price controls. At times, there may be a need to control prices, and in such circumstances, authorities can advise how to minimise their distortionary effects, for example by limiting their duration and scope to the minimum required.

Source: OECD (2012), Competition and Commodity Price Volatility, OECD (2022) Why governments should target support amidst high energy prices

131. The second type of advocacy work that could be particularly relevant to times of high inflation is advocacy that seeks to improve competition in a particular sector. For example, this could take the form of market monitoring or market studies. Market studies can help understand the extent to which inflationary pressures are related to competition issues (OECD, 2018<sup>[48]</sup>). In general, while they may be faster than some forms of enforcement action, they are unlikely to lead to fast resolutions since even fast studies often require governments to implement any recommendations. Nonetheless, factual market studies can provide a straight-forward way to study a sector and understand the causes of any increases in price, including whether there are any competition issues in the sector or potential breaches of competition law (OECD, 2012<sup>[11]</sup>). This can be particularly useful if authorities are under pressure to act but are unsure as to the cause of potential issues.

132. Some have proposed that price rises could be used as a basis for automatic market studies or probes. For example, economist Hal Singer proposed that automatic probes should be triggered in sectors that were highly concentrated, had rising margins and had seen year-on-year price rises over 10%.<sup>41</sup>

133. Other examples of advocacy that could be particularly beneficial in times of inflation is work that seeks to identify and remove barriers to entry in different sectors. The OECD has developed a toolkit to help in the assessment of such factors.<sup>42</sup> In their note, the Portuguese Competition authority noted the potential benefits of reducing barrier to entry and drew attention to a number of recommendations they had made to remove unnecessary barriers to entry in sectors of the economy (Autoridade da Concorrência, 2022<sup>[44]</sup>), including in digital industries, transport sectors and energy markets (amongst others). The majority of these were carried out prior to the current inflationary period however, which perhaps serves to highlight the point that even with advocacy, competition policy is an important longer, rather than shorter, term tool.

134. Authorities may also wish to consider the mix of compliance initiatives. For example, as noted above, industry organisations or trade associations can be important avenues for discussion during times of rising costs and can also serve to educate their members on how to comply with competition rules. However, there could be a risk that they facilitate coordinated conduct, and so this may prove a fruitful avenue for some authorities.

135. Finally, as discussed in section 3. , there may be risks to competition if consumers find it difficult to keep track of prices. Therefore, authorities may wish to consider how best they could advocate for measures to boost price comparison activity for consumers.

### 4.3. Enforcement

136. The essence behind the 1971 OECD Council recommendation was to enforce competition law attentively and with sufficient rigour. For most authorities such a recommendation will be business as usual, and it can be important to signal this to firms.

137. For example, in a speech by Matthew Boswell, Commissioner at the Canadian Competition Bureau, it was made clear that the authority would have zero tolerance towards any firm seeking to use the current situation to increase prices.<sup>43</sup>

138. As noted in the discussion on prioritisation, there may also be a case to focus enforcement on issues in times of inflation. For example, the Portuguese competition authority argues for the importance of combating public procurement cartels as key to avoiding the waste of public funds during times of high inflation and economic crisis (Autoridade da Concorrência, 2022<sup>[44]</sup>). While it is unclear whether public procurement is more or less likely to be subject to cartel conduct during high inflationary periods, it provides an example of how competition enforcement could support wider government efforts.

139. It is worth noting, and being clear publicly, that enforcement of competition laws is unlikely to be timely from the perspective of fighting inflation. As noted above, this should in no way diminish its value. Ensuring competitive markets relies, in part, on thorough competition law enforcement. Further, enforcement action against anti-competitive behaviour may have little effect on current inflationary periods but could act on a deterrent that limits its occurrence in future episodes.

140. Beyond the prioritisation criteria discussed above, authorities should be aware of conduct that may have high risk of prominence during times of inflation. For example, as noted above in section 3.2, there could be an increased risk of cartel, or cartel-like, conduct in inflationary periods. In particular, firms may seek to use the cover of inflation to make price rises and authorities may wish to consider being vigilant about price announcements in the media and, to the extent possible, monitor similarities in price movements between rivals.

141. As noted above, authorities generally need to be vigilant if high inflation creates pressure on some firms. While inflation in itself may be unlikely to cause firm failures, inflation is sometimes associated with broader economic crises which may have effects, not to mention the potentially deteriorative effect on the broader economy of persistent high inflation itself.

#### 4.3.1. Price gouging

142. “Price gouging” is an often-maligned practice of raising prices in the face of high demand. In general, most economists consider this an integral part of market functioning as it sends important market signals. Price gouging pre-necessitates market power. Absent market power, prices should relate to cost rather than demand. There may be limited value to some higher prices in times of crisis, if there is limited opportunity for suppliers to react accordingly, perhaps due to high barriers to entry or other market disruptions.

143. These are complex issues that may be difficult for competition authorities to deal with, and some authorities may not have the legal tools necessary to act against high prices. There may also be alternative measures available that would be more appropriate, such as consumer protection or even specific price gouging rules (OECD, 2020<sup>[49]</sup>).

144. Some however may have excessive pricing legislation that can be used to target high prices. For example, at the outset of the COVID-19 Pandemic, the UK’s Competition and Market Authority noted that it would take action to ensure that suppliers did not exploit the situation, including by breaking competition law through the charging of excessive prices.<sup>44</sup>

145. In considering action in times of high inflation, many of the considerations that were relevant during the COVID-19 pandemic may be relevant. For example, many of the risks identified in relation to price controls in Box 6 will be relevant, and authorities will carefully need to consider whether particular pricing provides important market signals (OECD, 2020<sup>[49]</sup>).

### **4.3.2. Regulation of purchasing power**

146. There has been much recent discussion about purchasing power and how authorities should consider competition between purchasers.<sup>45</sup> In the context of high inflation, the potential for some forms of collaboration between purchasers to bring costs down, could put pressure on authorities to be flexible in this area.

147. On the other hand however, there may be strong incentives for purchasers to exploit purchasing power during these times. This could significantly affect workers and other sellers, such as small businesses. Further, there is the significant risk that enabling such behaviour will have future repercussions if it becomes entrenched or materially undermines market efficiency (OECD, 2022<sup>[50]</sup>).

148. An important aspect to consider here for authorities is the goal of competition policy, and whether a narrow focus on the consumer welfare standard is appropriate. For example, the effects of competition on the labour market may be of particular interest to society in a high inflationary environment, with harm to workers from low wage growth likely to be particularly high.

149. Indeed, it is interesting to note that some authorities that have spoken publicly about their role in the inflationary environment have commented on the need to enforce competition law to protect the interest of workers. For example, an important element to consider is that one harmful effect of inflation is its role in reducing real income of households through a reduction in their purchasing power. This is a point well-articulated by the Portuguese Autoridade da Concorrência in highlighting its 360° approach, which noted the importance of competition in labour markets to maintain the purchasing power of households (Autoridade da Concorrência, 2022<sup>[44]</sup>).

### **4.3.3. International coordination**

150. Some of the factors affecting inflation, as might be expected in a largely international cost crisis, are international rather than national. This raises the question of whether, even if competition issues are at the heart of some of the inflationary pressures, individual competition authorities will be able to deal with those issues individually.

151. Further, even if separate approaches had the potential to improve competition, it may be better if a solution could be reached through coordination. For example, competition issues that are not solely within the jurisdiction of a single authority could include freight industries or energy markets.

152. Authorities, in high inflationary environments, may therefore benefit from increased coordination to consider if joint actions could have a meaningful impact in some areas. There are a few ways in which authorities may be able to work together to tackle some of these issues. Box 7 summarises some cooperation between some authorities aimed at identifying and tackling potential collusion in the supply and distribution of goods given the disruption to global supply chains.

#### **Box 7. Co-operation against potential collusion in global supply chains**

Competition authorities in Australia, Canada, New Zealand, the United Kingdom and the United States announced earlier this year that they have formed a working group aimed to target potential collusion in global supply chains. The announcement was made simultaneously by each authority. The focus of

the working group is reported to be to share information between the authorities to assist in the identification and preventions of anticompetitive conduct that could fall foul of competition law.

The focus of the working group is global and domestic supply chains. A press release from the Canadian Competition Bureau notes that one of the purposes is to stifle attempts by businesses that engage in collusive conduct, such as price-fixing, under the cover of supply chain disruptions. Given the globalised nature of many supply chains, it would appear to be a good example of a sector where information acquired by one authority could be of value to another. The agencies pointed to the increased demand and heavy congestion in freight and supply chains, noting the delays this was causing to huge numbers of economies, and prices are significantly higher than usual.

A quote from the press release on the CMA's website notes that:

*“These are global issues that are best addressed together. With support and intelligence from partner agencies across the world, we can step in and take enforcement action if we find evidence of anti-competitive behaviour taking place.”*

The working group appears to be on the back of a mutual assistance and cooperation framework established between the authorities of the five countries in September 2020.

Source: Press release from Competition Bureau of Canada, 17 February 2022, International working group targets potential collusion by competitors in supply and distribution of goods, <https://www.canada.ca/en/competition-bureau/news/2022/02/international-working-group-targets-potential-collusion-by-competitors-in-supply-and-distribution-of-goods.html>; Press release from Australian Competition and Consumer Commission, 18 February 2022, Five Eyes competition authorities to focus on collusion in international trade, <https://www.accc.gov.au/media-release/five-eyes-competition-authorities-to-focus-on-collusion-in-international-trade>; Press release from UK Competition and Markets Authority, 17 February 2022, International agencies put supply chains on notice against collusion, <https://www.gov.uk/government/news/international-agencies-put-supply-chains-on-notice-against-collusion>

#### 4.4. Practical considerations

153. In times of high inflation, there are also likely to be considerations of a more practical nature for competition authorities.

154. With an inflationary environment, the nominal value of the currency decreases rapidly. Several aspects of a competition regime function in relation to nominal values, such as filing thresholds and fining guidelines. As such, changes in the value of currency are likely to impact the appropriateness of those thresholds, as the real value of the currency has changed, potentially substantially.

155. Perhaps the most obvious example is merger filing thresholds. These are used in many jurisdictions to determine which mergers are subject to regulatory scrutiny. They provide regulatory certainty to firms whilst allowing for a proportional regulatory approach. With high inflation, the appropriateness of these thresholds could quickly become outdated.

156. One mechanism to guard against this risk is to link thresholds to indices of inflation or to have an annual review of their appropriateness. For example, in the United States the Federal Trade Commission adjusts the thresholds for merger filings based on changes in Gross National Product.<sup>46</sup> Similarly, in Italy, the merger control thresholds are also adapted taking into account inflation. The adjustment is undertaken each year and is based on the GDP Deflator index.<sup>47</sup>

157. Many countries employ similar mechanisms. Any such regime will need to consider how best to maintain regulatory certainty, with firms able to clearly understand the relevant thresholds that apply should they undertake a transaction.<sup>48</sup> The design of such a mechanism should also be mindful of its potential administrative burden, in particular seeking to resist the potential for challenges to adjustments.<sup>49</sup>

Ultimately, a transparent and relatively simple mechanism that is well-understood is likely to be preferable to a continued search for a hypothetically optimal solution.

158. In addition to filing thresholds, authorities may also need to consider fines in a high inflationary environment. Many guidelines for fines consider proportions of company revenue or turnover. However, in a high inflation environment, depending upon the timescale used to calculate the company's revenues, fines could be set at too low a level. For example, consider a fine calculated based on the published revenue figures available. This would cover the earnings of the firm over, at least, the previous year, meaning that some of the figures will be based on nominal prices over a year old.<sup>50</sup> If annual inflation were to be over 10%, this could mean a fine in real terms at least 5%, or even higher, lower than would be the case in a lower inflationary environment.

159. In particularly high inflationary environments, where there is discretion to do so, authorities should consider whether the fines are likely to be sufficiently sized to provide a deterrent effect and be wary of fines based on overly historical turnover.

160. Finally, authorities should carefully consider how high inflation may affect any analysis that they conduct. Pricing is often a central element of many types of analysis and, in general, these should not be affected by high inflation. For example, the conceptual basis of the SSNIP test remains the same as it implicitly holds the pricing level constant.

161. Nonetheless, authorities should carefully consider how an inflationary environment could impact the robustness of their analysis in times of high inflation. This could include taking care in how any pricing related questions are phrased in consumer survey work. For example, if price increases are now common and expected, this will need to be factored into any question on how consumers believe they would respond to a price increase. It is also even more important than usual to ensure that any analysis of pricing or revenue data, including within internal documents or to construct market shares, carefully considers the date that it corresponds to and the relevant contemporary inflation rate.

# 5. Conclusion

162. Over 50 years ago the OECD Council adopted a recommendation calling for increased competition enforcement as part of the fight against inflation. It was considered obsolete just five years ago, but with high inflation seemingly back, the discussion appears highly relevant. Governments are keen to bring inflation back until control and many competitions authorities will be contemplating their role in this.

163. There are several contributing factors to the current inflationary trends, including the ongoing supply and demand effects of the COVID-19 pandemic and the Russian invasion of Ukraine. That competition is also being mentioned in such conversations is worth competition authorities taking note of, regardless of how much of the effect can be attributed to it.

164. Ultimately, the dynamics of inflation are complicated and competition authorities do not need to fully understand how competition contributes to it. There are good reasons to consider competition an important contributor to a long-term low inflationary environment, both in terms of reducing the exacerbating effects of market power on rising costs and in overall better market functioning.

165. Despite this, competition policy should not be seen as a prominent short-term anti-inflation tool. Competition interventions take time, both to assess and implement, and rushing them could create procedural unfairness and undermine the rule of law. Further, despite having the potential to reduce prices significantly, competition enforcement is unlikely to be capable of reducing prices substantially enough on its own. Interventions typically focus on a few markets, meaning that even strong price reductions will have limited impact on the overall price level.

166. In many ways, the wording of the 1971 OECD recommendation appears equally valid today. Competition is vital for a low inflationary environment and competition enforcement should be prioritised, but not at the expense of fiscal or monetary policy. To hold competition authorities accountable for general inflation is likely to be both unrealistic and unproductive.

167. Competition authorities then should consider how best they can play their important, but lower-key, role in restoring inflation to normal times. This includes being aware of how inflation may affect competition itself. Given inflation affects pricing, it could increase the risk of coordinated price announcements from firms, as well as undermining competition by raising consumer search costs.

168. Further, while for the most part it may be business as usual for authorities, it is worth considering how their mix of work might best contribute to lowering inflation, providing this does not undermine their longer-term effectiveness. For example, there may be merit in minor changes to how different potential sets of action are prioritised. As noted in the discussion above, this should not be seen as a significant departure from usual, but authorities may wish to consider placing more emphasis on actions that induce faster pricing effects, have spill-over effects in as many markets as possible and seek to deter conduct that appears to exacerbate inflation.

169. Advocacy and enforcement activity from authorities may also need a revised focus. This includes being aware of risks to competition from government interventions, such as price controls, as well as being wary of certain kinds of conduct, such as coordinated price announcements. It is also worth considering how pressure on competition authorities to act on inflation may provide an opportunity to pitch the benefits of competition to a wide audience. This could include a suitably cautious note about the importance of competition policy in fighting inflation over the longer term.

# Endnotes

<sup>1</sup> See Box 4 for further details of the recommendation.

<sup>2</sup> OECD (2022), "Prices: Consumer prices", Main Economic Indicators (database), <https://doi.org/10.1787/0f2e8000-en>. The OECD-Total average inflation for the percentage change on the same period of the previous year for Q2 2022 was 9.7. The average annual inflation rate for the OECD-Total for 2016-2020 was 1.9%.

<sup>3</sup> The concept of a "high" price can be difficult to define. Here, a price is high if it is substantially above the price that one would expect in a well-functioning competitive market.

<sup>4</sup> Competition policy here is broadly defined as the pursuit of increased competition in markets, such as the enforcement of competition laws and advocacy for pro-competitive legislation or reform.

<sup>5</sup> Of course, for most markets, even large increases in price would register as only minor increases in the overall inflation rate of an economy.

<sup>6</sup> It is worth noting that central banks typically have no means to control the level of competition in an economy yet are generally held to account to meet inflation targets.

<sup>7</sup> See for example discussion of inflation expectations by staff the European Central Bank, September 2022: [https://www.ecb.europa.eu/pub/projections/html/ecb.projections202209\\_ecbstaff~3eafaaee1a.en.html](https://www.ecb.europa.eu/pub/projections/html/ecb.projections202209_ecbstaff~3eafaaee1a.en.html)

<sup>8</sup> Inflation is generally measured by considering the average movement in prices of a set of goods and services. There are technical nuances to different inflation measures, such as the Consumer Prices Index (CPI) or the Retail Prices Index (RPI).

<sup>9</sup> As just one example of some of the conceptual difficulties, it is not straightforward to estimate the true rate of inflation when faced with large changes in consumption patterns. See discussion by the OECD on the potential difficulties in measuring inflation given the shifts in consumption during the COVID-19 pandemic: <https://www.oecd.org/fr/sdd/prix-ppa/statistical-insights-consumption-shifts-and-inflation-measurement-during-covid-19.htm>

<sup>10</sup> Income beyond wages would also need to rise along with inflation, such as pension income or other benefit payments. Note that in these circumstances the inflationary environment may worsen, as what is often referred to as a "price-wage spiral" ensues, where increases in wages further increase pressure on

prices to rise, further pushing up wages, and so on. This appears to be happened to a lesser extent in the current environment, with real wages decreasing overall (OECD, 2022<sup>[52]</sup>)

<sup>11</sup> See for example: American Bar Association, 31 January 2022, *Should Antitrust Be Used as an Anti-Inflation Tool? Live Recording of Debate at George Mason Law School*: [https://www.americanbar.org/groups/antitrust\\_law/resources/podcasts/our-curious-amalgam/should-antitrust-be-used-as-anti-inflation-tool/](https://www.americanbar.org/groups/antitrust_law/resources/podcasts/our-curious-amalgam/should-antitrust-be-used-as-anti-inflation-tool/); *The Guardian*, Robert Reich, November 2021, *We need to talk about the real reason behind US inflation*: <https://www.theguardian.com/commentisfree/2021/nov/11/us-inflation-market-power-america-antitrust-robert-reich>.

<sup>12</sup> See for example: The Washington Times, Trevor Wagener, 14 March 2022, *Corporate 'greed' is not the cause of inflation*: <https://www.washingtontimes.com/news/2022/mar/14/corporate-greed-is-not-the-cause-of-inflation/>; American Action Forum, 3 January 2022, Douglas Holtz-Eakin, *Antitrust Is Not Anti-inflation Policy*: <https://www.americanactionforum.org/daily-dish/antitrust-is-not-anti-inflation-policy/>;

<sup>13</sup> Chicago Booth Initiative on Global Markets, 11 January 2022, *Inflation, Market Power, and Price Controls*: <https://www.igmchicago.org/surveys/inflation-market-power-and-price-controls/>

<sup>14</sup> The aim is to measure the intensity of competition or the market power of firms. Different metrics of competition act as proxies for this.

<sup>15</sup> Even if the effects of inflation are focused on one or two sectors, they still comprise many separate economic markets.

<sup>16</sup> An additional consideration beyond pass-through is that firms could use cost increases themselves to coordinate at higher price levels. This is discussed in more detail in the next section which considers how inflation affects competition.

<sup>17</sup> For example, Matt Stoller argued at the end of 2021 that corporate pricing power could have attributed to around 45% of US inflation. See Matt Stoller, 29 December 2021, *Corporate Profits Drive 60% of Inflation Increases*: <https://mattstoller.substack.com/p/corporate-profits-drive-60-of-inflation?s=r>

<sup>18</sup> See, for example, Economic Policy Institute, Josh Bivens, 21 April 2022, *Corporate profits have contributed disproportionately to inflation. How should policymakers respond?*: <https://www.epi.org/blog/corporate-profits-have-contributed-disproportionately-to-inflation-how-should-policymakers-respond/>. An important feature of the argument is that wage growth continues to lag overall inflation, which the authors suggest implies the inflation is not simply an overheating of the economy.

<sup>19</sup> This would be especially problematic if the missing variables are correlated with the measures of competition. In this case, the estimated relationship observed between competition and inflation could be erroneous, and instead the consequence of observing the correlation between competition and the missing variable that impacts on inflation.

<sup>20</sup> This is likely to be true even though changing prices can be costly for firms due to menu costs (e.g., updating pricing labels, changing marketing materials, communicating changes to customers).

<sup>21</sup> This is because information on prices is valid for only short periods of time. Therefore, firms must acquire information more frequently in order to have a reliable understanding of market prices.

<sup>22</sup> Here, collusion and coordination are used loosely in an economic sense, rather than in relation to conduct that would be considered in breach of competition law.

<sup>23</sup> In addition, the empirical issues discussed in relation to estimating the effect of competition on inflation are likely to apply here as well.

<sup>24</sup> Of course, this incentive exists independently of any inflationary pressure. In addition to customers switching to rivals, sales could also be lost due to reduced purchases by existing customers.

<sup>25</sup> Different regimes treat such conduct differently and whether this is considered a hard-core cartel behaviour is ultimately a legal question for each respective regime. For the purposes of the discussion in this section, we focus on the distinction between situations where an agreement is reached through discussion, and one where firms act independently but send signals to firms that allow them to form mutual understandings on coordinated outcomes.

<sup>26</sup> See, for example articles such as: The Hill, Inflation is providing cover for price fixing: economists, 19 July 2022, Tobias Burns, *Corporate profits have contributed disproportionately to inflation. How should policymakers respond?* <https://thehill.com/policy/finance/3564912-inflation-is-providing-cover-for-price-fixing-economists/>

<sup>27</sup> Of course, a desire to coordinate and communicate could lead to open, and illegal, discussion and agreement on prices or other factors. Most firms will be aware of the potential costs of being caught and, hopefully, be sufficiently deterred.

<sup>28</sup> Some economists have described earnings calls as a common tactic for coordinating. For example, Hal Singer notes this in this article: The Hill, Inflation is providing cover for price fixing: economists, 19 July 2022, Tobias Burns, *Corporate profits have contributed disproportionately to inflation. How should policymakers respond?* <https://thehill.com/policy/finance/3564912-inflation-is-providing-cover-for-price-fixing-economists/>

<sup>29</sup> This is sometimes described as the AAA framework, which considers consumer's ability to access, assess and act on information.

<sup>30</sup> There is a link between this discussion and the discussion above around coordination, as price dispersion implies a failure of coordination by firms. It is important to note that even if it were to hold true on average that inflation increased price dispersion between firms, it would not preclude some markets being able to reach coordinated outcomes.

<sup>31</sup> See, for example, this article explaining recent research from Marketing researchers at Macquarie University: The Conversation, 24 April 2022, *Why getting less with shrinkflation is preferable to paying more,* <https://theconversation.com/why-getting-less-with-shrinkflation-is-preferable-to-paying-more-181326>

<sup>32</sup> The incentive to do so will depend on the production function, specifically how costs reduce if volumes decrease. To illustrate the point, note that industries where costs are relatively unresponsive to changes in prices are unlikely to derive sufficient reduction in costs to make the practice worthwhile in comparison to a price increase.

<sup>33</sup> For example see: The American Prospect, Hal Singer, 2 February 2022, *Antitrust Should Be Used to Fight Inflation*, <https://prospect.org/economy/antitrust-should-be-used-to-fight-inflation/>.

<sup>34</sup> The analysis noted the importance of spill-over effects in the contribution of competition policy to lowering price levels, and the importance of the duration of the effect.

<sup>35</sup> This is however a significant decrease in length, having averaged over 3 years until the early 2000s. It would seem optimistic however to predict that the timeframe could be shortened drastically in the future.

<sup>36</sup> For example, a merger that lessens competition but provides short-term cost savings which may temporarily lower prices in a large industry, should not be given special treatment in times of inflation or not.

<sup>37</sup> For example, competition authorities are usually tasked with investigating mergers that occur within their jurisdiction and do not have control over which transactions are proposed.

<sup>38</sup> Indeed, given the importance of a competitive economy to fight inflation over the long-term, a departure from sound business as usual could have negative effects on inflation over time.

<sup>39</sup> Broadly defined and acknowledging that defining sets of consumers and treating some differently from others is not without its issues.

<sup>40</sup> Global Competition Review, 13 September 2022, *Spanish enforcer opposes government's food price-fixing proposal*: <https://globalcompetitionreview.com/article/spanish-enforcer-opposes-governments-food-price-fixing-proposal>

<sup>41</sup> The American Prospect, Hal Singer, 2 February 2022, *Antitrust Should Be Used to Fight Inflation*, <https://prospect.org/economy/antitrust-should-be-used-to-fight-inflation/>.

<sup>42</sup> OECD Competition Assessment Toolkit, <https://www.oecd.org/daf/competition/assessment-toolkit.htm>

<sup>43</sup> See: Remarks by Matthew Boswell, Commissioner of Competition, Centre for International Governance Innovation, 26 May 2022: <https://www.canada.ca/en/competition-bureau/news/2022/05/building-a-more-competitive-canada.html>

<sup>44</sup> Competition and Markets Authority, 5 March 2020, *COVID-19: sales and pricing practices during coronavirus outbreak*: <https://www.gov.uk/government/news/covid-19-sales-and-pricing-practices-during-coronavirus-outbreak>

<sup>45</sup> See, for example, recent discussion at the OECD Competition Committee on Purchasing Power and Buyers' Cartels, here <https://www.oecd.org/daf/competition/purchasing-power-and-buyers-cartels.htm>

<sup>46</sup> Federal Register, The Daily Journal of the United States Government, 41 January 2022, *Revised Jurisdictional Thresholds for Section 7A of the Clayton Act*: <https://www.federalregister.gov/documents/2022/01/24/2022-01214/revised-jurisdictional-thresholds-for-section-7a-of-the-clayton-act>;

<sup>47</sup> Autorità Garante Della Concorrenza E Del Mercato, *Turnover Thresholds*: <https://en.agcm.it/en/scope-of-activity/competition/mergers-and-acquisitions/turnover-thresholds>

<sup>48</sup> For instance, the timing of changes should be considered, including whether and how it will apply retrospectively. This will be particularly important for transactions that are close to the threshold values, including those under investigation but would fall under the revised thresholds.

<sup>49</sup> Firms will be affected by the changes and therefore may have an interest in influencing or challenging a decision. Automatically adjusting according to a well-respected published index is likely to be easy to administer and unlikely to be subject to challenge, but the choice of index itself may not be straight-forward. If the process is transparent, this can provide business certainty, but may provide incentives for businesses to delay transactions until after changes take effect, creating different regulatory treatment for similar deals depending on when they are filed.

<sup>50</sup> Even if an annual revenue figure were published at the same time the fine was set, the average general price level for the revenue data would be six months old, as it would relate to sales collected throughout the previous 12 months. In times of very high inflation, the nominal value of these historic sales could significantly understate the real value.

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