Organisation for Economic Co-operation and Development

ROOM DOCUMENT

Facilitating structural adjustment in the steel sector

Workshop Background Document

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This document provides background information to support the discussions taking place at the Steel Committee's workshop on facilitating structural adjustment on 17th September 2018.

Action required: For information

Gianpiero MATTERA, Gianpiero.MATTERA@oecd.org, +(33-1) 45 24 94 14
Christian STEIDL, Christian.STEIDL@oecd.org, +(33-1) 45 24 98 84

Note by the Secretariat

This workshop is part of a series of occasional workshops organised by the Steel Committee. The OECD Secretariat has received two proposals from the European Union for topics that could be the focus of future workshops of the Steel Committee, these include: i) outward investment and ii) steelmaking raw materials. The Secretariat welcomes any further suggestions for potential workshop topics of interest to the Committee. If the Committee agrees, the Secretariat could consider allocating some resources to help provide the necessary background materials for any future workshop, as part of the work envisaged in the Committee's Programme of Work and Budget (PWB).

1. Introduction

1. The focus of the OECD Steel Committee's work is on promoting structural adaptation of the steel sector that would lead to a more open and less distorted steel markets, resulting in a more efficient allocation of productive resources. Facilitating resource allocation across firms and sectors of the economy is a key element of structural change and a driver of economic growth. However, industrial characteristics and inefficient policy settings may result in excess capacity and heightened barriers to exit that tend to prolong or even hinder structural adjustment. Restructuring appears to be more challenging in the steel sector than in many other manufacturing industries.

2. To increase understanding of ways to address the challenges of structural adjustment in the steel sector, the OECD is organising a half-day workshop on these issues back-to-back with the Steel Committee on 17 September 2018. This background paper intends to inform the discussions during the workshop. It outlines different barriers to exit and the social consequences of steel plant closures. On this basis, participants are invited to discuss policies that can facilitate the closure of inefficient steel plants, including measures to cushion the social impact of restructuring, in order to enable a reallocation of resources to more efficient production units and/or other sectors of economic activity. Such policies would improve the longer-term efficiency and functioning of steel markets.

2. Removing barriers to exit

2.1. The plant closure decision: market factors

3. The restructuring of the steel sector requires the exit of many inefficient plants and firms, and the reallocation of resources to more productive uses. In fully functioning competitive markets, exit acts as a part of a selection process where inefficient production units close while more efficient units are allowed to thrive. This selection process promotes allocative efficiency, which results in higher aggregate productivity. However, a number of sector specificities may delay or discourage the exit of inefficient firms, even in the absence of policy-induced market-distortions. In this context, firms that would typically exit in a competitive market, actually survive and crowd-out growth opportunities for more efficient firms (Adalet McGowan, Andrews and Millot, 2017[1]).

4. Steel production is characterised by high fixed costs. Moreover, investments in equipment and facilities are considerable, and can last for several decades. These characteristics reduce the incentives for firms to close down inefficient plants. The plant closure decision also depends on the salvage value of the existing plant. The closure of a plant is unlikely to occur when the expected stream of revenues from continued operation is above the salvage value. The salvage value of steel plants is usually very low because of the lack of alternative uses for steelmaking facilities and equipment on the one hand, and the costs associated with removing the bulky steelmaking equipment on the other. As a result, steel firms might prefer keeping an inefficient plant in operation even when making losses for an extended period of time (Deily, 1988[2]).

5. Salvage values also depend on closure costs — i.e. all costs that would be borne if the plant is dismantled. These can include, for example, environmental regulations that require that firms cover the costs associated with cleaning up the production site after closure. The closure of steelmaking facilities also entails important dismantling costs, which might be larger than the value of dismantled capital, leading to negative salvage values (Deily, 1988[2]). In the current context of global excess capacity, steel firms seeking to close inefficient capacity may face additional challenges in finding buyers for their physical assets, which further lowers salvage values and acts as a barrier to exit (Harrigan, 1982[3]).

6. Firms might find it reasonable to borrow the necessary funds to temporarily cover operating costs and avoid incurring the losses associated with low or negative salvage values, in the expectation that market conditions improve. Therefore and given the cyclical nature of steel demand, uncertainty and over-optimistic demand expectations can set the wrong incentives and act as important barriers to exit, because they encourage steel firms to continue to sustain losses and delay the closure of inefficient plants.

7. However, firms can only obtain external funds if they are credit worthy. Financial markets are therefore important to ensure allocative efficiency. Information asymmetries in financial markets — e.g. when it is not possible for financial markets to differentiate between efficient and inefficient firms/plants — might result in the misallocation of financial resources and also delay exit. For example, resource misallocation might result in extremely high levels of indebtedness (see (OECD, 2018[4]) for the case of the steel industry recently), which might provide incentives for creditors to roll over the debts in order to increase the chances of recovering at least some of the value of the investment.

8. Incentives for closing inefficient steel production units might also vary according to the steelmaking technology used. For example, basic oxygen furnaces (BOF) entail higher costs of suspending production temporarily in comparison to other technologies such as electric arc furnaces (EAF). This implies that in face of a negative demand shock, a BOF plant will mostly be affected by reduced prices (because quantity adjustments may be more difficult in the short term), while an EAF plant will be affected by reduced prices, but can adjust production levels. Should prices fall below marginal cost, the EAF plant would stop (or reduce) production to save on variable costs, but the BOF plant might carry on with losses because they have a larger share of fixed (or semi-fixed) costs (Silva and de Carvalho, 2015[5]).

2.2. Policy factors preventing or delaying exit

9. Non-market factors are also important barriers to exit. This is particularly the case when government supports inefficient firms or when the regulatory environment is not conducive to exit. Such policy actions and framework conditions may hinder much-needed restructuring.

10. Many governments view steel as a strategically important industry. Therefore, the steel sector is particularly prone to direct and indirect forms of government support. If not well-designed this can allow inefficient firms and plants to remain in the market. Direct forms of government support include for example tax benefits, loans and debt instruments, cash grants, cash awards, cost refunds, and government-provided goods and services that when provided to ailing firms can act as a barrier to exit (Global Forum on Steel Excess Capacity, 2017[6]). This is also the case with indirect forms of government support, which include for example artificially low input prices (e.g. electricity provided at rates that are below market prices), discretionary public procurement, or implicit government guarantees in the case of state-owned enterprises, which reduce the incentives to operate efficiently and postpone the exit of inefficient producers.

11. The regulatory framework may also include features that are not conducive to exit. For example, bankruptcy regulation might play an important role (Adalet McGowan, Andrews and Millot, 2017[1]). Lengthy bankruptcy procedures can materialise in significant additional costs that reduce the incentives of firms to shut down. Dysfunctional insolvency systems induce creditors to keep their ailing borrowers in operation rather than force bankruptcy proceedings, in order to save the values of their credits (Adalet McGowan, Andrews and Millot, 2017[7]). Failure to enforce solvency requirements on heavily indebted steel companies further postpones the exit of inefficient firms and results in considerable misallocation of resources. As another example, the lax enforcement of accounting, fiscal, environmental, labour market and other standards and regulations may alleviate budget and other constraints, thus postponing the exit of inefficient plants.

12. Policies to facilitate the exit of inefficient production units should take into account both market and non-market factors preventing exits. First and foremost, all forms of direct and indirect government support should be designed such they do not discourage the exit of inefficient plants and only serve to address market failures. For example, policies that facilitate the dismantling of inefficient plants may help reduce the costs of closure.

13. Second, framework conditions should be conducive to optimal exit. While simplified and clear bankruptcy procedures will directly facilitate the exit of inefficient producers, the consistent enforcement of regulation including corporate reporting,

environmental standards, or product quality and safety standards will help level the playing field and ensure that more efficient firms are allowed to thrive.

2.3. Questions for discussion

- What are the most important factors discouraging exit of inefficient steel producers?
- What other factors discourage the exit of inefficient steel producers?
- What targeted incentives (if any) should be provided to facilitate the exit of inefficient producers?
- To what extent do framework conditions affect exit?
- Can investment in more flexible steelmaking processes facilitate structural adjustment?

3. Supporting workers affected by steel capacity closures

3.1. Social impacts of steel plant closures

14. Structural adjustment implies the transition of workers to more productive plants, firms or industries. Reallocation of human capital from inefficient to more efficient parts of the economy not only increases aggregate productivity but may also benefit workers, insofar as the transition implies higher earnings in more efficient production units. When workers are displaced, however, this shift often involves spells of involuntary unemployment. Efficiency gains and other aggregate benefits of restructuring are normally more diffused and therefore less visible than the costs imposed on workers of exiting or contracting firms, making the relevant reforms potentially difficult to implement politically (Andrews and Saia, 2017[8]). The social costs are particularly salient in the steel sector and other heavy industries, where adjustments tend to be concentrated in time and geography (mass lay-offs).

15. Mass lay-offs receive a great deal of attention from policy makers and the general public because of the challenges that affected workers face in finding re-employment (OECD, 2018[9]). Employment is a key objective for policy makers in central and local governments. As such, the incentives for the adoption of policies that might prevent mass lay-offs can result in barriers to exit and inhibit structural adjustment. Alternatively, policies that improve the re-employability prospects of laid-off workers could help mitigate the social costs of the necessary adjustment, helping to address political economy challenges, and thus facilitating the exit of inefficient producers.

16. Similar to other heavy industries, idiosyncrasies in the steel industry might inhibit smooth structural adjustment. Streamlining production or closing plants often implies the displacement of a sizeable number of workers over a short period of time, when compared to other industries. This implies that a significant number of workers with potentially very similar backgrounds and skill sets are suddenly on the labour market searching for (re-)employment.

17. The geographical concentration of production units is another factor that adds to the social challenges entailed by structural adjustment in the steel sector, given the potential lack of employment alternatives in narrowly defined local labour markets. This is notably the case when a steel plant has been intentionally set up in less developed regions. Furthermore, the closure of a steel plant can have adverse knock-on employment effects on the local community. For example, the drop in disposable income of laid-off workers can have depressing effects on other companies (Andrews and Saia, 2017[8]) while local suppliers and customers of the steel plant might be affected as well, both of which can lead to additional displacement. These and other spillover effects further add to the challenges of finding re-employment because of increased competition for jobs in the local labour market.

18. Concerning the re-employability prospects of workers, studies have found that skills are partly firm- and partly industry-specific (Huttunen, Møen and Salvanes, 2011[10]), while higher educated workers tend to have more general and transferable skills than less educated workers do. These aspects further aggravate the problem of (mass) lay-offs in the steel and other industries where employment has been decreasing, because it makes re-employment in the same industry less likely (OECD, 2018[9]). The potentially necessary

transition to other industries might entail additional challenges associated with skills mismatches, especially if workers could not benefit from training or sufficiently long periods of schooling (associated with more transferable skills). If adjustment requires workers to move across sectors, the loss of industry-specific skills might also entail higher wage losses. As older workers with longer tenure have more firm-specific skills (Andrews and Saia, 2017[8]) and less recent job searching experience, they might face additional challenges finding a new job. Also, research shows that re-employment after displacement might be more challenging for older workers, as they are more likely to remain unemployed (Oesch and Isabel, 2015[11]) or to leave the labour force (Huttunen, Møen and Salvanes, 2011[10]).

19. While most re-employed workers displaced in manufacturing stay within the same industry (Huttunen, Møen and Salvanes, 2011[10]),[1] displaced workers in the steel industry might face additional challenges. In a comprehensive account of restructuring in the steel sector in eight economies during the 1970s and 1980s, Bain (1992[12]) finds that "[s]teelworkers were more likely to be unemployed or to have withdrawn from the labor force than the average unemployed worker" (Bain, 1992[12]), noting that most workers that were able to find a new job did so in different industries and experienced a decrease in income.

20. Addressing these and other challenges facing workers displaced by structural adjustment in the steel sector require well-designed policy responses that can improve the re-employability prospects of laid-off workers in more productive steel plants or in other parts of the economy.

3.2. Policies to improve re-employment prospects and facilitate firm exit

21. Active labour market policies (ALMP), which support workers in their job search and include re-training and up-skilling possibilities, have proven to be quite effective in bringing displaced workers back into employment. Overall, higher spending on ALMP (as measured in percentage of GDP) has been found to correlate with a higher percentage of re-employment one year after displacement (Andrews and Saia, 2017[8]).[2]

22. With regard to the timing of activation policies, it is found that early interventions are more efficient, better preparing workers to find employment. The design of these policies should however refrain from preventing or delaying the closure of inefficient production units. Searching and re-training for a new job can take time, so starting ALMPs before the actual lay-off, increases the chances of a smooth job transition. Implementing activation measures as soon as workers are notified help avoid long periods of unemployment that result in lower future wages and re-employment prospects (OECD, 2018[9]; Andrews and Saia, 2017[8]) due to skill depreciation and signalling effects. Regulation can facilitate earlier interventions. Pre-notification periods for lay-offs differ substantially among OECD countries (OECD, 2018[13]). While mandating extremely long notice periods can have disadvantages for companies (e.g. signalling companies'

[1] The study by Huttunen et al. (2011[10]) analysed the effects of displacement of male manufacturing workers in Norway. While the results could be country-specific, there is further evidence that manufacturing workers are re-employed in the same sector after displacement, see for instance Oesch and Baumann for the case of Switzerland (2015[11]).

[2] The analysis does not account for the quality of the policy.

challenges, reducing workers' motivation), a minimum notice period provides better possibilities for meaningful proactive measures (OECD, 2018[13]).

23. In some cases of mass lay-off events, dedicated agencies have been set up to better assist workers, improving access to job-search assistance and counselling (OECD, 2018[13]). There might also be a case for policies specifically targeting certain groups of workers that are more at risk of displacement (e.g. older workers and employees with lower level of skills), but the early identification of workers at risk of displacement might be challenging in practice.

24. Life-long learning, re-training and activation policies can improve re-employment prospects and need to be part of a comprehensive strategy to support workers (OECD, 2018[9]). Continuous training throughout a worker's professional life is fundamental as employees face increasingly fragmented employment histories and are expected to be able to adopt to changing work environments. Learning possibilities need to be broadly available and independent of a workers employment history in order to be effective (OECD, 2018[9]).

25. Training might be especially important for low and medium-skilled workers, who are likely to face a higher risk of displacement, but are so far less likely to benefit from training possibilities (OECD, 2018[9]). The need for continuous up-skilling is particularly important in view of increasing automation of production processes and tasks, notably for workers that have routine tasks (Nedelkoska and Quintini, 2018[14]). Arguably, these measures to support workers are all the more critical in a mature industry like steel, where structural adjustment pressures might be higher.

26. Facilitating regional mobility (e.g. by addressing distortions in housing markets) could also help displaced workers. However, while workers who move to a different region after displacement are more likely to become re-employed (Andrews and Saia, 2017[8]), many non-job related considerations (e.g. family ties, regulation of the housing market) are important factors that influence mobility (Huttunen, Møen and Salvanes, 2018[15]; OECD, 2018[13]), adding to the challenges of developing effective policies in this area.

3.3. Questions for discussion

- Should policy makers adopt specific measures related to displacement in the steel industry, or should such measures be "sector-neutral"?
- Is there a case for ALMPs specifically aimed at workers affected by mass lay-offs (compared to other dismissed workers) after they became unemployed?
- Should re-training specifically target certain groups of workers (possibly at the expenses of others)?
- How can policy makers encourage inter-regional mobility of displaced workers?
- What is the right combination of policies and incentives that facilitate plant closure, while helping workers and local communities?

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