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**The “Perfect Storm” in the Global Automobile Industry:
Scrapping the Old is the Road Ahead for the New?**

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Abstract

The automobile manufacturing industry is confronted in 2022 with what could be called a “perfect storm”. A mix of dramatic factors, each with potentially massive impact, is working toward a deep restructuring of this industry that may be qualified as unprecedented in the industry. The consequences of the COVID-19 pandemic, the greening of the economy, the global recession, as well as the political crises on the global stage are impacting both the auto supply chains but also the relationship between the auto manufacturers and their customers. Moreover, sector regulations are in a dynamic flow. Such a global context may lead to dramatic changes in the management and strategies of the companies from this industry and may reposition the competitors for the next long-term technology cycle in the industry. Maybe paradoxically, one of the public policies that could support in the industry in this process of transition is one of the most traditional in the industry, such as scrapping schemes.

Keywords: scrapping, automobile, supply chains, political risk, motor vehicle.

JEL Classification: H23, L62, P12.

1. Introduction

In 2022, the global automobile industry is facing one of the most challenging economic and political contexts it may have experienced during its entire existence. While such a statement may seem over-rated or exaggerated, there are at least five factors that massively impact the current situation. Each one of these factors may potentially be highly disruptive by itself and in isolation, but the resultant mix of them is leading to a unique situation.

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2. Problem Statement

It could be argued that the most important factors affecting the global automobile industry in 2022 are:

- the global recession and macroeconomic instability. As early as 2019, analysts were taking into consideration the probable occurrence of a significant macroeconomic restructuring as a result of monetary policies following the Global Financial Repression one decade before (2007-2008);
- the perceived climate crisis and the attempts by governments all over the world (both domestically but also coordinated at an international level) to „green” the economy. Such environmental challenges have led to a process of politically-induced transition towards more eco-friendly technologies;
- the technological revolution in the automobile technology. Independently of the environmental challenge, the automobile industry was facing a major technological shift most probably manifested in a gradual abandonment of the technology of internal combustion engine based on fossil fuels toward more efficient (and, incidentally, more environmentally friendly) technologies such as the use of biofuels in the internal combustion engine but most of the electric vehicle, the hydrogen engine, and others;
- the COVID-19 pandemics and its impact on supply chains. The global pandemic that started in 2020 and has developed for at least two years has determined the adoption of public policies not previously adopted at a national level by governments all over the world and especially in the Northern hemisphere (also the area of major developed economies in the world). Policy measures such as lockdowns, but also trade measures, have translated in the economic sphere in the temporary blocking of major international supply chains in a wide range of industries, among which the automobile industry was among the most impacted ones. This was particularly the case of the People’s Republic of China (a country that adopted among the most radical measures in this respect), but also of the European Union;
- global political risk on the rise. Starting with the Donald Trump administration in the United States of America and its willingness to politically confront other major countries such as the People’s Republic of China, but also even members of the European Union, and culminating with the war in Ukraine in 2022, the international political landscape has deteriorated significantly. The rise of economic sanctions as a preferred policy measure to deal with the relations between the Western countries and the Russian Federation, for example, has further impacted the international supply chains, as well as the business confidence.

Table 1. Factors affecting the global automobile industry

	Factor	Main impact	Preferred Form of Government Intervention
1	Global recession	decrease in the demand, increase in the cost of financing, erosion of working capital, so on	monetary policy, subsidies to producers, subsidies to the consumers, scrapping schemes

	Factor	Main impact	Preferred Form of Government Intervention
2	“Greening” of the economy	adoption of new legislation, standards and ecological targets, potential prohibition of certain activities in the future so on	carbon taxation, ecological standards, scrapping schemes, so on
3	Technological change	learning new technologies, implementing in new R&D, retooling the factories, restructuring and repositioning in the global supply chains (new partners, creating back-up supply chains, reformulating inventory management), so on	subsidizing R&D, facilitating startups, scrapping schemes (especially electric cars) so on
4	COVID-19 pandemics	restructuring and repositioning in the global supply chains (new partners, creating back-up supply chains, reformulating inventory management), experiencing tele-working, experiencing new forms of political risk, so on	lockdowns, vaccination campaigns, subsidies to consumers, subsidies to companies, so on
5	Global political risk	restructuring and repositioning in the global supply chains (new partners, creating back-up supply chains, reformulating inventory management), experiencing new forms of political risk, managing economic sanctions, so on	economic sanctions, trade boycotts, human rights prosecution, so on

Source: the authors, 2022.

3. From Crisis to Failure: Rapid Change as a New Type of “Market Failure”

The literature on “market failure” has emphasized that there are economic conditions under which the process of allocation of resources in an optimal way is disturbed (Bator, 1958). In consequence, private agents do not maximize general welfare through their profit-oriented activities. Governments are called to intervene by rearranging assets and reincentivizing activities toward other scenarios of allocations. But there is an implicit, market equilibrium assumption. That there is such an “optimum” scenario as long as the fundamental data are given: consumer needs, factors of production, knowledge and technology.

Any change in such market data changes the optimum point and induces disequilibrium that exists until the moment when the economic system reaches the new optimum. But such a process is not instant. It takes time, as fundamentally the structure of production has to be rearranged in terms of physical reconversion of

capital goods and consumer preferences have to internalize the new market supply. Fundamentally, such a rearrangement of the structure of production means downsizing certain production activities, setting up new business ventures that exploit the new knowledge and technology by implementing it into new products and services, and reconverting assets from the old structure of production towards the new structure of production.

Under the condition of perfect competition with knowledge parity between agents, such a process seems to be instant. However, in the real world this is not the case. Any such process of restructuring and reversion of the structure of production means that entrepreneurs have to implement the new knowledge and technology into new business ventures (not necessarily new companies), invest, and start the process of production of the new products or services (or upgrade them). Such a process takes time as capital goods need a period of depreciation in order to allow entrepreneurs to record profits and be rewarded in this way for their right forecast.

This is the reason why the Austrian economist Joseph Schumpeter (2008) called “capitalism” a process of “creative destruction” as new ways of production mean the emergence of new structures of production (combination of factors of production) and the disappearance of the old ones.

Entrepreneurs need not only time in order to return their investments in capital goods but also a certain degree of risk that they are assuming. Any entrepreneur has to manifest a certain confidence that he / she will be able to take back the investment in the time horizon he / she calculated. No entrepreneur will ever take a decision to invest if he / she does not have such the confidence of the return of the investment. Lacking the confidence, such an entrepreneur will wait until the conditions of the market will allow him / her to make an informed forecast and bet on the possibility of getting the return of his / her investment.

Or, in a fast-changing technology environment associated with a fast-changing regulatory landscape that is a result of domestic and international political dynamics, such a confidence may be lost. Under such conditions, the current global economic context may be translated into the abstention from making long-term capital investments which, paradoxically, exactly inhibits the process of reconversion.

In consequence, a new type of “market failure” may emerge. This is the turbulent business environment where the fact changes in the environmental conditions of the market leads, *in abstracto*, to an impossibility of entrepreneurs to take decisions and to act. They are prevented from doing so by their lack of confidence that they have enough time at their disposal in order to get the return of their investments. As Smith and Cowing (1977) stated, “*that the rate of return constraint affects investment choices by reducing the implicit value of net investment to the regulated firm*”.

4. A New Logic of Interventionism Has to Emerge in Time of Crisis: Reducing Uncertainty

In such a turbulent business environment with a fast pace of technology and exogenous political changes, the logic of public interventionism has to be adapted.

It should not be redistributive or re-allocative of existing welfare. It should be inducing stability in order to create welfare in the future. It should not provide subsidies but confidence, that is, a certain degree of predictability to allow private agents to make investments.

Public policies have already created the infrastructure on which markets are built and operate. They are the system of property rights, freedom of exchange, monetary system, tax system, and so on. The stability of such institutions provides the ability of entrepreneurs and market participants to calculate, plan and implement their business decisions. No entrepreneur can write a business plan, unless he / she has a certain confidence that the data that is used is reliable and the market conditions will remain broadly speaking stable.

Permanent turmoil until determine business decision markers to postpone investment till the moment that the conditions of the market seem to be more stable and allow for a certain forecast. So, this is not only a knowledge problem but also a political problem. The political problem is related to the outcome of the political process, which is regulation. Paradoxically, both challenges can be solved by political decision makers through multiple mechanisms.

It is obvious that there is a difference between nominal certainty and real certainty. For example, socialism as a political and economic system apparently determines certainty. Government planners made four- or five-year plans in which they stated how they would allocate resources at the level of the entire economy. All property was governmental and the prices were fixed by authority. Apparently, there were no losers or winners in the process of production. Everybody was a winner. In consequence, no “dynamics” were allowed as uncertainty and competition as a discovery proof was denied.

While this formal certainty was obvious and reassuring for some members of the society, the dynamics of the resource availability, consumer preferences, and technological ideas could not be prevented in any type of socialistic system. Such dynamics are natural, and while participants in the economic system can adjust to the resource and knowledge availability, the mismatch just grows in time. Moreover, the disincentives to rationalize resources and save are distorted and altered.

A market is an economic and political system where the uncertainty is accepted as natural and is considered to be the core disciplining mechanism for adjustment to the fundamentals of the market (Rothbard, 2009). Prices signal the demand and the supply for an economic good. Market participants adjust to such trends in order to be better positioned as compared to their competitors. But we should make a manifest difference between market uncertainty (related to knowledge, consumer preferences, entrepreneurship, etc.) and political uncertainty that lie at the premises of the market mechanism: changing regulation (including taxation), prohibiting certain economic behaviours or reallocating resources.

While the private economic agents should be endowed with the ability to understand the sector in which they operate and, in consequence, to forecast the dynamics of the market, they are less capable to understand the political process that has the outcome of changing regulations and the “rules of the game”.

5. The Dilemma of How to Intervene in “Perfect Storms”? Scrapping Schemes

The current landscape of the automobile industry is really under unprecedented conditions. It is a critical challenge for any government that has to address this industry how to intervene. There are at least five factors that concur regarding the current context, which means that each measure or form of government intervention that should have dealt with that particular “failure” may be inefficient for the others. So in a complex situation like the one faced by the automobile industry, the dilemma is which policy measure should be chosen that may have a complex impact, preferably on each of the dimensions of the crisis. Using too many instruments and forms of intervention may translate into a cacophony of interventionism, which has complex but also contradictory effects.

As the third column of the table shows, scrapping schemes have been employed by different governments in order to reach different policy objectives. While simple as structure and implementation, they may become the policy choice for their complex impact at the level of the economy and environment. As Malechek and Melcer argued (2016), *“adopted in many core world economies, most notably in Germany, the U.S. and Japan. Two main goals of these schemes can be identified. First, to provide a support to the car industry by shifting future consumption to the present, which is particularly valuable in a recession, when there is an abundance of unemployed resources that can be put to work at low net economic cost ... Secondly, replacing old cars with high emissions by new ones should have brought about a positive ecological outcome ...”*

A scrapping scheme is a policy measure through which an owner of an old car is rewarded with a premium in the moment that he / she decides to scrap such a car. The scheme can stop at this point or continue by the use of the premium in the process of acquisition of a new car. In the second case (which is the most usual type of scrapping scheme), the scrapping of the old car means the acquisition of a new car.

While apparently very simple, the scheme explores at the same time two key challenges in the present economic landscape: the economic growth and the “greening of the economy”.

There are not so many policy measures that support at the same time economic growth (exiting the recession) and protection of the environment. As a general norm, these two objectives are in contradiction in the traditional logic of industrialism. Paradoxically, scrapping schemes are among the policy measures that seem to support both objectives. Starting with what has been called the “UNOCAL scheme” in 1990 (implemented by the American energy company UNOCAL in the state of California) (Lucsko, 2016), the scrapping schemes have been adopted by several countries in the world (especially in the European Union as well as in other major economies in the world). Its popularity has been reached during the global financial crisis of 2007 – 2008, when especially European countries have adopted such schemes with a double dimension: exiting the recession and advancing towards the environmental objectives.

As mentioned by the European Conference of Transport Ministers (1999), “The main objectives of the schemes have usually been listed as follows:

- stimulating the national car industry and the national economy by boosting new car purchases;
- improving transport safety by introducing newer, safer vehicles;
- reducing car exhaust emissions”.

Maybe paradoxically, there are no such policy measures that can address multiple objectives at the same time. So the scrapping schemes are among the unexpectedly simple in design but complex in impact contemporary public policies.

6. Conclusions

In a complex context of a crisis with multiple dimensions that could be qualified as a “perfect storm”, the dilemma of the types of public policy to be adopted is high on the agenda. The global automobile industry experiences a unique set of circumstances that require a certain type of intervention from the part of governments that addresses in the same time multiple dimensions, unless a deep shock would damage the industry. Scrappage schemes are among the apparently simple forms of intervention but with a complex impact at least on economy and the environment.

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