

# European Accounting and Management Review

Volume 8, Issue 2, May 2022

ISSN (online): 2385-3921

Published on  
<https://eamr-accid.eu>

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# European Accounting and Management Review

Volume 8, Issue 2, May 2022

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European  
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## **Executives' insights about by-products made by recycled CO<sub>2</sub>: the case of CPGs industry**

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Received January 8, 2022; accepted June 8, 2022.

### **ABSTRACT**

This paper presents parts of an exploratory, mix-methodology study that concerns the innovative technology of carbon capture and utilization (CCU) in the production of chemical oxo-products. Experts with 13 European CPGs industries were surveyed. It was found that recycling and conservation of energy and water technologies are carried out in all factories, while green applications that concern the composition of products are implemented by half of the industries. All executives hold positive attitudes towards innovative technologies that concern carbon neutrality. Half of them were found willing to include the new, green oxo-products (Glycolic acid, n-Valeraldehyde and Limoxal<sup>TM</sup>) in their production process of their GPCs, stating prerequisites that concern quality and actual contribution to neutrality. The reservations that were expressed by the other half of the respondents concern the low level of awareness about the recycled CO<sub>2</sub> oxo-products and the early stages of CCU implementation.

### **KEYWORDS**

Green business practices, carbon capture and utilization (CCU), green oxo-products, CPGs industry.

## **1. Introduction**

Frans Timmermans, the executive vice-president (2019-2024) for the European Green Deal, in a recent newspaper interview of his (To VIMA, 2022), declared that neutrality is both necessary and feasible by 2050, as agreed in the UN Glasgow Financial Alliance for Net Zero /GFANZ in 2021 (GFANZ, 2022). The Paris Agreement on climate change stipulates the requirement to pursue efforts to limit the average global temperature increase to 1.5°C (UNFCCC, 2015). Of course, climate crisis is not going to be overcome in a short period of time by just the implementation of one alliance, as for more than two centuries, wealth was built at the expense of climate. Moreover, although climate changes and extreme weather phenomena are ranked high in people's concerns, the working classes are justifiably worried about losing their jobs. This is why European Deal has to place emphasis on the notion of fair transition. "If green transition is not going to be fair, it is just not going to happen at all", Frans Timmermans underlined (To VIMA, 2022). The "It's Possible" podcast held during GFANZ aimed to inspire positive change, unpack the climate emergency, and connect science and action (UNCC, 2021) towards fair economic development, in favour of both humanity and physical environment.

In this regard, the business world faces a series of challenges in order to respond to public increasing environmental concerns, comply to regulations imposed by governments and pressure exerted by non-governmental organizations (Scur and Barbosa, 2017; Schaltegger, 2021). Corporate strategies, as well as marketing practices (Rudawska, 2019) have to adapt towards holistic, sustainable business missions rather than simply apply seemingly green techniques, which sometimes include greenwash (Nguyen et al., 2019). An honest ecological management strategy has to comply to actual sustainability goals, such as reduction of emissions, energy, water and waste (Abutaleb and El-Bassiouny, 2020). In addition, competitive ecological offerings to meet sensitive consumers' needs and wants are required (Delistavrou et al., 2021). Hence, sustainable orientation and practice are becoming an increasingly important part, not just in B2C but in B2B marketing research and practice (Kapitan et al., 2019; Trollman and Colwill, 2021). In fact, ecological values should be penetrated into the centre of the industrial sector philosophy targeting to a range of actions, such as carbon pricing, setting science-based targets, sourcing 100% renewable energy, and climate-related financial disclosures (UN Global Compact, 2019). Among other sectors of manufacturing, chemical industry is often accused of harming the physical environment heavily. Chemical industry has

been found to be the third largest Green House Gas (GHG) emitter in Europe (DECHEMA, 2017).

In the production of consumer-packaged goods (CPGs) the concept of ecologically friendlier ingredients has been gaining importance over time (Duran et al., 2014; AISE, 2022; Cosmetics Europe, 2022). This tendency has increased the challenge to produce CPGs by the utilization of friendlier to the environment raw material. Efforts by the Research and Development (R&D) corporate departments or by academic labs to develop innovative, green technologies able to provide materials towards low or no CO<sub>2</sub> emissions appear from sometime now in the relevant literature (Huisinigh et al., 2015). On the other hand, it is to be noted that there is not enough knowledge with regards to actual adoption and implementation of green practices by the production and management departments in the European industries (Seuring and Gold, 2013; Scur and Barbosa, 2017; Jones et al., 2017). Therefore, extensive research efforts are required not just to examine the current status quo. Research is necessary to reveal the factors that are able to motivate the willingness to adopt innovative, green practices in the production, in line with the European Green Deal about climate changes and reduction of carbon gas emissions.

Among other innovations, there are recent suggestions that concern a new technology in the field of carbon capture, utilization and storage / CCUS (Linzenich et al., 2019). CCUS aims to remove an amount of CO<sub>2</sub> from the atmosphere using Carbon Dioxide Removal/CDR emissions (Cox et al., 2020; Rajabloo et al., 2022). Carbon Capture and Storage (CCS) and Carbon Capture and Utilization (CCU) are two CO<sub>2</sub>-based technologies aiming at mitigating climate change by capturing and either permanently storing CO<sub>2</sub> (CCS) or using it as feedstock (CCU) for commercial products, e.g., chemicals, fuels, or plastic products (Arning et al., 2020; Rajabloo et al., 2022). Although there are similarities, there are also significant differences in both the technology and valorisation between CCU and CCS appearing in public debates and policy processes (Bruhn et al., 2016).

This study lies mostly within the topic of CCU, also referred as Carbon Dioxide Utilization (CDU) (Jones et al., 2014; 2015) or CO<sub>2</sub> Recycling (Perathoner and Centi, 2014). It concerns a technological innovation for a new, green process that uses recycled CO<sub>2</sub>, water and sunlight to produce fluid, green oxo-products that are able to replace conventional materials, necessary in the production of CPGs. Currently, the focus is placed on three chemicals that can be produced by the usage of recycled CO<sub>2</sub> and are

widely used in the production of cosmetics, fragrances and detergents, among other CPGs. Glycolic acid is used in the production personal care products, n-Valeraldehyde is used in the production of plastic and flavouring and Limoxal<sup>TM</sup> is used in the production of fragrances, personal care and household cleaning products.

Therefore, this paper presents parts of an exploratory, mix-methodology study, in which experts with European CPGs industries were surveyed in order to reveal their insights about technological innovation concerning green by-products that are going to be made by recycled CO<sub>2</sub>.

## **2. Review of the literature**

### **2.1. Chemical Industry in Europe**

There is no doubt about the significant role of chemical industry as practically chemicals are utilized in the production of all goods. During the COVID-19 pandemic, chemical industry was found crucial as it offered the necessary health and hygiene equipment and products (Hepburn et al., 2021). In regards to climate changes, the chemical industry has been previously challenged to drastically reduce the carbon gas emissions in order to comply to the relevant European directives (EC 2037, 2000; EC 1005, 2009). The EU27 greenhouse gas (GHG) emissions, in chemical industry, were decoupled in 2019 as they fell by nearly 54% since 1990 (CEFIC, 2022). Still, the European Green Deal goals, for zero carbon gas emissions in 2050, seem quite ambitious. The above-mentioned reduction was actually achieved mainly in the period 1997-2013, while after 2013 there was no significant reductions of GHG emissions (CEFIC, 2022).

Further, it is to be underlined that COVID-19 brought about new research and policy issues imposing modifications of the deal (Barouki et al., 2020; Lara, 2020). In addition, it is not to be overlooked that competitiveness for profitability is always the ultimate business scope. The world chemical sales in 2020 came up to €3,471 billion, with EU27 being the second largest producer of chemicals in the world, with €499 billion (China 1,547 and US 426 billion). However, the predictions, for the decade to come, concern a declining European share in an increasing global market with China, NAFTA and Latin America indicating enlarging tendencies of their own shares (CEFIC, 2022). The Achilles heel of the entire European industry is the energy cost with gas and electricity accounting for two third of the total energy consumption (CEFIC, 2022). The European carbon price has also risen sharply in 2021, albeit much less than the gas price. High gas prices themselves

contribute to an increasing carbon price since they lead to an increased use of coal for power generation and consequently higher demand for emission allowances. It is important to note that the carbon price from the European trading system (ETS) provides a fundamental incentive to switch to cheaper low-carbon energy sources, thus contributing in the longer term to lower wholesale prices (European Commission, 2021). On the other hand, the stronger point of European firms remains the quality of products due to the research and innovation (R&I) superiority. European chemical industry, despite the economic crisis, spends steadily growing resources in R&I, reaching the 9.4 billion in 2020, just 4.6 million less than China (14 billion), which however accounts for triple sales than EU27 (CEFIC, 2022).

Consequently, the European chemical corporates have to encompass creatively three issues: economic sustainability, response to COVID-19 financial shock and transition towards neutrality (CEFIC, 2022). Hence, this challenging era should welcome any innovation strategy towards technology, products and by-products that might be found able to reduce carbon gas emissions, financial and social cost while offering efficient and effective solutions in the production of CPGs, among other product value chains.

## 2.2. CPGs in Europe

Leaving food out of the box in this study, the main CPGs categories are the household cleaning products (home and fabric care products) and the personal care products (fragrances, cosmetics and other toiletries). The market value for household cleaning products in EU accounted for €32.4 billion in 2020 increasing by 4.7% from €30.2 billion since 2019 (AISE, 2021), with Germany being the largest market with about €4.58 billion sales, followed by UK with €4.23 billion and France €4.22 billion (Statista, 2022a). With regards to specific categories, increase was indicated in all categories and in particular to surface care, dishwashing and bleaches, which is attributed to the increased amount of time spent at home due to COVID-19 restrictions (AISE, 2021). It is expected that the cleaning market will grow further due to the pandemic and its impact on cleaning habits to minimize the risk of COVID-19 contamination (Statista, 2022a).

The market values for personal care products in EU accounts for €76.7 billion and in EU27 accounts for €63.8 billion (Cosmetics Europe, 2020), experiencing a growth of approximately €10 billion between 2015 and 2020 (Statista, 2022b), with Germany's sales value reaching about €14 billion in 2020, France €11.4 billion, UK €9.8 billion and Italy €9.7 billion (Cosmetics Europe, 2020). Spain with sales value of €6.4 billion (Cosmetics

Europe, 2020) had the highest growth rate, with personal care product sales growing by 2.4 percent (Statista, 2022b). As for the specific product categories, 28% of the total sales were for skin care products, 27.7% for toiletries, 18.4% for hair care products, 13.7% for fragrances and 12.2% for decorative cosmetics (Cosmetics Europe, 2020).

### 2.3. Green practices in CPGs industry

In EU, big companies (>500 employees) are obliged to report annually their sustainability actions and the requirements are set to become stricter for reports published from 2024 and beyond (EC 95, 2014). Climate investments, energy efficiency and effectiveness, seem to be on top of investment priorities and the majority of business are currently investing or planning to invest in these areas, in the next few years (Euromonitor International, 2021). However, currently just 13% of companies are actually engaged in carbon capture and reuse of CO<sub>2</sub> exhausts that go in chemical manufacturing or in soil carbon restoring in agriculture (Euromonitor International, 2022). The stock keeping units (SKUs) carrying such claims are just under 0.1% of a given industry (Euromonitor International, 2022). Although climate change is considered very and extremely important by more than 70% of the business executives, just 14% of the businesses actually have a carbon Net-Zero strategy (Euromonitor International, 2021). Nonetheless, 43.3% of them expect that reduced carbon footprint will be one of the major concerns for the consumers in the future, whereas 34.7% of consumers declare they will try to reduce carbon emissions (Euromonitor International, 2021).

Home care industry in order to respond to the changes in consumers' habits due to environmental concerns, move towards green services and products by adopting innovations in materials and surfaces (AISE, 2022). The European home care industry invests 2-3% of turnover in science, 1-2% in new product development and manufacturing and 4-5% in marketing and sales at an effort to produce new or improved products in the market (AISE, 2022). Green innovation is pursued throughout the life cycle of the home care products, i.e., sourcing and design, production, transportation, use and disposal and include low temperature washing, unit dosing, compaction, controlled dosing, resources efficiency and packaging (AISE, 2022).

The personal care products industry is progressively adopting efficient processes and technologies in production, aiming to reduce energy and water consumption, waste generation and pollution. In order to minimize the environmental footprint of personal care products, companies in the industry employ green strategies such as the use of



biodegradable, recyclable and reusable packaging as well as eco-design of formulas with more sustainable materials (Cosmetics Europe, 2022).

### **3. Research objectives**

The objectives of this research study are:

- to record the innovative, green practices that are already implemented or planned to be implemented in the near future, in the production process of the CPGs industries
- to examine in depth the experts' overall views, thoughts or ideas about innovation and sustainability as well as towards a new technology aiming to produce environmentally friendlier by-products made by recycled CO<sub>2</sub>, water and sun
- to explore the executives' perceptions about the possibility, the necessary prerequisites and the motivational factors to include into their production the new, green oxo-products and valorise them in their promotional strategy.

### **4. Methodology**

Keeping in mind the visual representation of the process as presented in Figure 1, in the following we describe each step and discuss its relevance.

#### **4.1. The survey**

At an effort to gain more and deeper information, a mixed technique to collect empirical data was utilised. In previous studies (e.g. Duran et al., 2014; Kapitan et al., 2019; Abutaleb and El Bassiouny, 2020; Cox et al., 2020) mixed techniques - including both qualitative and quantitative tools - have been found efficient in the examination of similar cases. A semi-structured inventory, suitable for in-depth interviews served as the research instrument. Following Mason (2009) the instrument development procedure included literature search and study, 4 in-depth interviews with chemical engineers (1 researcher and 3 industry experts), who provided valuable consulting services, followed by consecutive pre-testing - pilot techniques that led in a series of the questionnaire editing.

Judgement or purposive sampling (Zikmund, 2003; Churchill and Iacobucci, 2005) was implemented in order to gain as much as possible richness of information in favour of this study objectives (Kapitan et al., 2019). A list of 60 CPGs industries was made, based on the criterion of diversity (Duran et al., 2014) with regards to the size. An expert appointed by the management of each company was interviewed and the procedure ended in 13 useable cases. This sample size is considered appropriate as the focus of the survey was

placed on emerging objective, unique perceptions and understanding in depth the respondents' insights (Patton, 2002).

#### 4.2. The inventory contents

The final research instrument included 3 questions about business and experts' characteristics. There were 9 quantitative questions, some of which contained an open part, too. There were also 8 totally open questions prepared for each in-depth interview. In the quantitative part of the instrument the following questions were included, all measured in nominal scales:

*Business Characteristics (BC)*, in which 3 questions were included, namely legal form, number of employees and specialty of the respondent.

*Consumer Packaged Goods (CPGs)*, in which it was recorded which CPGs (fragrances, cosmetics, home care products, fabric care products, personal care products or any other).

*Life Cycle Assessment (LCA) and Life Cycle Assessment Impact (LCAI)* in which the respondents were asked to state if LCA is performed in their factory. If Yes, they were asked about the aspects that have large impact on their products' LCA; if No, they were asked whether LCA would be of their interest presently or in the future.

*Certificates (Cert)*, in which ISO or other green certification or awards hold by each company were recorded.

*Ingredients (In)*, adopted from Bom et al. (2019), in which the respondents were asked to characterize the majority of ingredients (synthetic, natural, organics), in each one of the above-mentioned categories of products.

*Innovation Strategy (IS)* in which the respondents were asked to characterize the main strategy that is followed by their firm with regards to innovation. This question is followed by Innovative Green Practices Aspects (IGPA) in which the experts were asked to state the most important aspects of innovative, green practices in the production of CPGs. Both questions were adopted from Duran et al. (2014).

*Green Deal Actions (GDA)* in which the experts were asked to specify which actions, out of a 10-items list (see Table 3), has their company "Already" carried out or plans to adopt "In the future". This question was adopted from "The Community Innovation Survey, 2014".

*Green Oxo-products (GOP)* examining which new, green oxo-products was most probable to use followed by Green Oxo-products in CPGs (GOPinCPGs) examining for which CPGs they were going to use the above mentioned new, green oxo-products.

In the qualitative part of the inventory, the following open questions were included:

*Perceptions about Green Practices (PGP)* in which the respondents were kindly asked to share their overall views, thoughts or ideas about innovative, green practices in the CPGs.

*Utilization of Oxo-products (UOP)* in which the respondents were asked to indicate which of the chemicals, under investigation, are used in the production process in their industry, followed by *Production of Oxo-products (POP)* to examine where and by whom the utilized oxo-products are being produced.

*Perceptions about Green Oxo-products (PGOP)*. In this open question the experts were informed about the production process of the new, green oxo-products and asked to share their inceptive thoughts about the overall idea.

*Adoption Willingness (AW)* in which the respondents were asked to state how likely it is to adopt any of the above green oxo-products, followed by *Adoption Prerequisites (AP)*, an open question about the prerequisites of adopting the new, green oxo-products in the production process of CPGs in their own company.

*Green Oxo-products Attributes (GOPA)* examining which attributes would be the 3 more crucial for the adoption of the green oxo-products in the production process of CPGs in their own factory.

*Promotional Campaign (PC)* of CPGs using Green Oxo-products asking the experts to hypothesize how they were going to valorise in their products' promotional campaign, the potential adoption of one or more of the above mentioned new, oxo-products.

## **5. Results**

The quantitative part of the inventory provided the following results:

All 13 cases were Societe Anonyme. Half of the responding persons are chemistry experts (pharmacist/chemist/chemical engineer) while the other half are management/marketing executives (Table 1). There is 1 firm with more than 100 th. employees, 1 with more than 15 th., 1 with more than 1 th., 4 small and medium enterprises with 80 - 300 employees and 4 very small firms with 4 -10 employees. There are 11 out of 13 factories, in which personal care products are produced, 8 cosmetics, 4 fragrances while there are 4 out of 13, in which home care products and fabric care products are produced (Table 1).

It has to be mentioned that just the 2 largest industries apply a system of Life Cycle Assessment. On certification, there are 9 companies holding one or more version(s) of ISO (9000, 14001, 22716/GMP), while 6 companies hold one more of other, various certificates.

With regards to the synthesis of the main ingredients per product category, there is 1 company (cosmetics and personal care products), in which only natural and organic ingredients are utilized and 1 company (pharmaceutical) that uses solely natural ingredients. There is 1 company (household products) that uses only synthetic ingredients. In all other cases (10) basically chemically produced (synthetic) ingredients are used while some natural and/or organic ingredients are utilized, too (Table 1).

Companies	Legal form	Number of employees	Respondent Specialty	CPGs	Ingredients		
					Synthetic	Natural	Organic
Company 1	S.A.	100	Chemist	Fabric & Home care	√	√	
Company 2	S.A.	>1,000	Business Dev.	Fabric, Home & Personal care	√		√
Company 3	S.A.		CPGs Director	Fabric, Home & Personal care	√		
Company 4	S.A.	15,000	Procurement Mngt	Cosmetics & Fragrances	√	√	√
Company 5	S.A.	> 100,000	Biotechnology	Fabric, Home & Personal care	√	√	√
Company 6	S.A.	22-40	Chemical Engineer	Fragrances & Personal care	√	√	
Company 7	S.A.	310	Pharmacist	Cosmetics & Personal care		√	√
Company 8	S.A.	20	Chemist	Cosmetics, Fragrances & Personal care	√	√	√
Company 9	S.A.	10	Shareholder	Cosmetics & Personal care		√	
Company 10	S.A.	15	Chemist	Cosmetics & Personal care	√	√	
Company 11	S.A.	80	Dev. & Marketing	Cosmetics & Personal care	√	√	
Company 12	S.A.	140	Chemist	Cosmetics, Fragrances & Personal care	√	√	√
Company 13	S.A.	30	Chemical Engineer	Cosmetics & Personal care	√	√	√

**Table 1.** Business Characteristics (BC), Consumer Packaged Goods (CPGs), and Ingredients (In).

With regards to the innovation strategy 8 out of 13 experts declared that they develop new and also adopt existing innovations in their production process, 3 reported imitation of leaders and 2 reported progressive development of existing techniques. As for the most important aspects when considering innovative, green practices in the production of CPGs, 8 of the respondents declared that renewable materials is the main issue, 9 carbon neutral production processes while 5 of them stated that biodegradable products is the most important aspect.

With regards to the European Green Deal actions (Table 2), 10 out of 13 industries declared that they have already carried out “recycling technologies”, 7 “reduction of water and energy technologies”, 6 “replacing part of the materials with green substitutes”, 5

“moving towards renewable materials” and “waste management technologies”, 4 “avoidance of materials tested on animals”, “moving towards biodegradable products”, “reduction of CO<sub>2</sub> emissions” and “sustainable packaging” while just 3 out of 13 declared that they already follow an “environmental management system” and “replace part of fossil fuels with renewable sources”. There have been 4 companies, which plan to adopt the latter two actions in the future.

	ALREADY		IN THE FUTURE		No response		Total	
	n	%	n	%	n	%	n	%
Avoidance of materials tested on animal	4	30.8	1	7.7	8	61.5	13	100.0
Environmental management systems	3	23.1	4	30.8	6	46.1	13	100.0
Moving towards biodegradable products	4	30.8			9	69.2	13	100.0
Moving towards renewable materials	5	38.5			8	61.5	13	100.0
Recycling technologies	10	76.9			3	23.1	13	100.0
Reduction of water and energy technologies	7	53.8			6	46.1	13	100.0
Reduction of CO <sub>2</sub> emissions	4	30.8	3	23.1	6	46.1	13	100.0
Replacing part of the materials with green substitutes	6	46.1			7	53.8	13	100.0
Replacing part of fossil fuel with renewable energy	3	23.1	4	30.8	6	46.1	13	100.0
Sustainable packaging	4	30.8	3	23.1	6	46.1	13	100.0
Waste management technologies	5	38.5	2	15.4	6	46.1	13	100.0

**Table 2.** Green Deal Actions (GDA)

As for the utilization of the oxo-products under examination, the Glycolic acid is used by 5 industries, the n-Valeraldehyde by 2 while Limoxal<sup>TM</sup> by none of the approached companies. All of the companies declared that they get these oxo-products by their suppliers.

It was found that 4 out of 8 companies are willing to adopt new, green oxo-products in the production of cosmetics, 3 out of 11 in the production of personal care products and 2 out of 4 in the production of home care products.

The elaboration of the *qualitative part* of the inventory indicated the following. It is to be noted that some unforeseen aspects were revealed:

With reference to the experts' perceptions regarding Green Practices, it was found that almost all (10) experts expressed positive to very positive attitudes concerning innovative, green practices in the production of CPGs. 3 of them expressed their belief that sustainability is “100% our company's philosophy”, “the key to business strategy” and

*“plan to move 100 % to biodegradable products that have been produced with renewable carbon origin sub-products”*. The most holistic idea that sustainability means “meeting consumer needs and implement practices that will save the planet resources and reduce greenhouse gases” was mentioned by 1 executive while another 1 said that *“sustainability will be feasible only if there is European funding of projects oriented to innovative, green practices along with the appropriate marketing effort”*.

There was a semi-structured question, in which the experts were informed by the interviewers that *“a funded by EU project aims to contribute to the non-carbon production technology. A photoelectrocatalytic reactor is to be designed, which is going to use recycled CO<sub>2</sub>, instead of mineral carbon, for chemicals’ production. It is argued that this new, green technology is going to reduce production costs by 10% and the CO<sub>2</sub> emissions by 50% for each one of the oxo-products”*. The respondents were kindly asked to express their thoughts and perceptions as freely as they would like. There were 7 of them, who just clearly stated their positive reaction towards the above innovative idea. The other 6 experts were rather cautious as they would like to know more about the possibilities of actual implementation of such a perspective. These expressed scepticism regarding the effectiveness of CCUS as long-term solution for mitigating climate change, unawareness of the specifics of the recycled CO<sub>2</sub> technology, such as storage inconvenience, duration of stock and quality of the recycled CO<sub>2</sub> oxo-products and durability of the final products.

The willingness to adopt any of the 3 new, innovative, green oxo-products was expressed by 9 experts. They provided a list of 7 prerequisites - each of which was mentioned once - that concern secured quality and efficacy - such as, *safety, functionality, equivalence for regulatory registration, more weight efficiency, efficacy, material validation*. The prerequisite of cost reduction was mentioned by 3 respondents, 2 of them expressed the necessity of availability, 1 of them the reliability of supplier while there was also 1 expert, who talked about the incentive of consumer demand.

With regards to the executives’ perceptions about the most crucial attributes of the green oxo-products in order to be utilized in production, the contribution to the climate change combat was mentioned by 5 experts and the reduction in fossil fuel consumption by 3 of them; each one of the *carbon neutral ingredients, product efficacy and safety* appeared to be mentioned twice while a list of other attributes were mentioned by just 1 respondent (Table 3).

	n	%
Carbon neutral ingredients	2	15.4
Contribution to combat climate change	5	38.5
Preservation of natural resources	1	7.7
Production of regenerative products	1	7.7
Reduction in fossil fuel consumption	3	23.1
Reduction of CO <sub>2</sub> waste	1	7.7
Utilization of advanced green technology	1	7.7
Other		
<i>Safety</i>	2	15.4
<i>Efficacy</i>	2	15.4
No response	3	23.1

**Table 3.** Green Oxo-products Attributes (GOPA)

In 7 out of 13 companies, the experts declared their intention to leverage in their promotional effort the utilization of new, innovative, green products made by recycled CO<sub>2</sub>, while 6 out of 13 did not respond in such a perspective.

## 6. Limitations and FRS

Although time and effort were spent at the preliminary stages of this study (literature review and in-depth interviewing consultants) the innovative, pioneering character of the subject under investigation brought certain limitations that are expected in an exploratory study. Limited previous research on this topic impacted on the inventory design of this study, which should be amended in a future duplication. Low level of awareness concerning the production of green oxo-products by the utilization of recycled CO<sub>2</sub> impacted on the firms' observed level to participate and thus to a rather low response rate (13/60). It is to be mentioned that Limoxal<sup>TM</sup> was not reported to be used by any executive. This was surprising as this is a widely used liquid that adds perfume in both personal fragrances and home care products. According to one of our science consultants this might be attributed to unawareness. Most of the companies that participated in the survey customarily buy their oxo-products by a supplier and do not produce them in their own premises. A future study should focus on those industries that are likely to actually install a reactor to produce oxo-products by recycled CO<sub>2</sub>.

## 7. Discussion and conclusions

The results of this study indicated that although a tendency towards natural or organics (Statista, 2022b) is evident in the literature (Duran *et al.*, 2014), it is with no doubt that chemicals are still the main ingredient not just in the production process of detergents but of personal care products, too (Table 1).

With regards to those European Green Deal actions (Table 2), which concern the composition of a product (and thus are more related to this study), focus was placed on the following: “replacing part of the materials with green substitutes”, “moving towards renewable materials”, “moving towards biodegradable products”, “reduction of CO<sub>2</sub> emissions” and “replace part of fossil fuels with renewable sources”. It was found that these practices are carried out by less than half of the examined industries, which is, to an extent, in line to the findings of Euromonitor International (2021). It is to be noted that 3 of these firms are among the largest in the sector. As for the total sample, the most applied practices concern recycling and conservation of energy and water. This is in line with the relevant findings in Cosmetics Europe (2022).

With regards to the experts’ overall views, thoughts or ideas, the qualitative techniques revealed that the executives primarily expect carbon neutrality (renewable materials, carbon neutral production process and biodegradable products) when considering adoption of innovative technologies. Almost all experts were found to hold positive attitudes towards innovative technology in the production of CPGs while further, half of them expressed positive inceptive thoughts towards the specific innovative, green oxo-products under examination. The other half, who were found somehow sceptic, expressed need for more information and reservations, similar to those argued by Arning *et al.* (2019). These reservations may be attributed to the low level of awareness and the very early stages of CCU implementation.

With regards to the executives’ perceptions about adopting the new, green oxo-products, the tendencies reported by Cosmetics Europe (2022) and AISE (2022) were verified, to an extent, by the results of this study, as half of the companies that produce cosmetics as well as half of those that produce home care products were found willing to include them in their production process. The majority of the respondents expressed prerequisites that concern secured quality and efficacy of the 3 oxo-products while cost reduction was mentioned by one out of four of the executives. With relevance to the new oxo-product attributes, most responses (contribution to the climate change combat and reduction of



fossil fuel consumption) concern the actual contribution to the Green Deal goal of carbon neutrality (Table 3). Finally, more than half of the firms declared their intention to valorise the future utilization of these new, green oxo-products in the promotional campaign of their own CPGs. This final finding of the study calls for further research as it was found that a 4-5% on turnover is annually spent in marketing and sales (AISE, 2022) while this aspect was also outlined by several respondents.

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## **The effect of remittances and their relationship with exports in the face of USMCA**

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Received January 24, 2022; accepted May 23, 2022.

### **ABSTRACT**

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The aim of this work is to analyze the reception of remittances in Mexico as a component of the migration phenomenon. We seek to understand the economic effect from the economic-fiscal policy and its relationship with exports after the entry into force of the USMCA. We applied the time series forecasting method using an unseasonal ARIMA model. As a result, we understand the correlation between remittances and exports, although there is also a prevalent benefit in fiscal income for the treasury of the country of origin.

### **KEYWORDS**

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Remittances, Exports in Mexico, Neoliberal theory, Economic-fiscal impact of remittances, USMCA.

## **1. Introduction**

Migration is a phenomenon of social movement that has positive economic effects in the area of residence as well as the countries of origin. People leave their countries to migrate abroad for numerous reasons. In the past, some migrants pursued mystic and ideological goals that led them to cross lands with the firm belief of prosperity; in other cases, they sought to invest and do business (Figueroa, Pérez, & Godínez, 2015). Nowadays, migration has a different social context. Mobilizations are often academic and occupational which, in any case, are authorized and legitimized by the consul of the country migrants will reside. A further reality of the families and those who migrate is job seeking (OECD, 2010), aiming for economic stability (Ekanayake & Moslares, 2020). Additionally, migration is caused by insecurity: The displacement of communities is often the result of harassment by criminal groups or political persecution, lacking government support. Since there is an inefficacy to guarantee human rights, undocumented people and families migrate in an uncontrolled way, driven by purposes different from those of development, investment, and progress.

Whether legal or illegal, the migration phenomenon involves social and economic effects, both in the countries of origin and those of residence. The social effects as learning different lifestyles, customs, ideologies, and education are intrinsic to the migrant, while the incidence in the economy is evident in the public finances due to the economic flow of currencies (Levitt, 1998). Mexico has a complex migration dynamic since it is the origin, transit, and destination of migrants. Still, 99% of the Mexicans abroad live in the United States (OECD, 2010).

The Mexico-US migration dates back to the 19th century (Figueroa, Pérez, & Godínez, 2015). This mobility led the Mexican population to settle in specific states of the US. Mexico has always emphasized the respect for the sovereignty of all countries. Furthermore, both nations have created controlled migration programs, as the Bracero Program (Rosenblun, 2004), which likely contributed to the population density of the US. The population count of the 2020 census revealed that the second racial or ethnic group in the country is Hispanic or Latino (18.7%). The states with the highest Hispanic-Latino population density are California (39.4%), Arizona (30.7%), New Mexico (47.7%), Texas (39.3%), and Nevada (28.7%). Mexicans account for the largest population (61.4%) in the states bordering with Mexico (US Census Bureau, 2021 b).



Therefore, the commercial interaction of the North American Free Trade Agreement (NAFTA) concentrated 18.3% of the world GDP, amounting to nearly 16% of the global trade (Secretaria de Economia, 2020). The annual trade of the US with Mexico and Canada is over USD 1.3 trillion. It is estimated that exports to both markets support around three million jobs. Mexico is the second largest export market for the US and its third trade partner: The bilateral trade of goods and services between the two countries reached USD 678 billion in 2019. Mexico and Canada are the two major destinations for good exports for over 40 US states (ITA 2021).

The US and Canada are the first and second trade partners of Mexico. The exports (USD) of the Mexican states bordering with the US are as follows: Chihuahua, 43.77 billion; Coahuila, 32.9 billion; Baja California, 32.229 billion; Nuevo Leon 25.915 billion; and Tamaulipas, USD 22.943 billion. Additionally, Campeche and Jalisco, two states with oil and industrial activity, export USD 27.143 and 20.103 billion, respectively (Secretaria de Economia, 2020).

The United States-Mexico-Canada Agreement (USMCA) came into force on July 1, 2020 (Vargas, 2020). This new agreement innovated the clauses in the NAFTA, continuing with the trade and reinforcing the participation of companies and cover of industries to generate a more active trade dynamic in the global economy.

Considering the social and economic dynamic, the questions in this study are How to acknowledge the relationship between trade and remittance transfers? Are trade agreements enough to maintain a solid and sustained economy? Is the increase in exports related to that of remittances to Mexico and the export opportunities to the US?

The motivation behind this study is to analyze the relationship between family remittances and export companies during the effect of the trade with the US and Canada in the wake of the signing of the USMCA. Our main hypothesis is that the new agreement will improve the economic-trade activity of companies in the US and Mexico, and it will allow for a continuous trend in remittance transfers in a global economy.

Our work is structured as follows. The next section is a review of the literature, including data from the World Bank and Banco de Mexico. We analyze the remittance flow worldwide to identify the position of Mexico, and our professional practice allows us to explain the economic and fiscal effect of this within the recipient country. We determine the states receiving the remittances and the indicators of the Mexican population to find the relationship with the economic value of the trade exports to the US.

Section 3 of this work applies the time series method to understand the relationship between remittance variables and exports during the effect of the NAFTA. The empirical results are presented in section 4 and, finally, section 5 includes the discussion and some implications.

## **2. Literature review**

### **2.1. Remittance flow worldwide**

The currency flow between the countries receiving and sending migrants exists mainly through private or government financial mechanisms. Mexican families receive remittances (Vargas-Silva, 2009) from relatives residing in the US, regardless of their legal status (CONDUSEF, 2020) as residents, citizens, or undocumented aliens (CONAPO, 2019). The fact is that those living in the US send money to their families living in the country of origin. The World Bank considers that the increase in remittances is due to the economic growth of the USE. Giuliano and Ruiz-Arranz (2009) have studied the increase in remittances on the Official Development Assistance (World Bank, 2021). In the year 2018, they reached the flow of the world foreign direct investment (FDI), excluding China (World Bank Group, 2019).

From the total current income in Mexican households, 0.79% corresponds to international transfers (INEGI, 2018). The migrants' productive activities have two economic effects from the income they receive (Nowrasteh, 2014). The first occurs directly in their country of residence. This is an acknowledged consideration since there is the association of the variables "center of predominant economic interest, [...] and the status of the tax effects" migrants pay (Balance of Payments Manual, 2008, p.45). The second effect is indirect; it is the economic impact of the remittances in the country of origin.

The World Bank, with statistical data from the International Monetary Fund (IMF), provides the information of the central banks and statistical agencies (World Bank Group, 2019), and reports the remittance flow of the countries. Located to the north of Australia, Tonga is the first remittance recipient of remittances, which account for 38.5% of the national GDP. In the Central American Caribbean, Haiti holds the second position with 34.3%. They are followed by a group of Asian and Central American countries: Nepal (29.9%), Tajikistan (29.7%), Kyrgyzstan (29.6%), Honduras (21.4%), and El Salvador (20.8%) (see Table 1).

The countries receiving remittances equivalent to 10–19% of their GDP are: Samoa (18.4%) and the Marshall Islands (13.5%) in Australia and Oceania; the African countries Comoros (19.3%), Cape Verde (12.1%), Liberia 12.8%, Lesotho (15.7%), and Gambia (13.5%); Lebanon (12.5%), Yemen (13.3%), and the West Bank and Gaza (17.6%) in Asia; Georgia (12.3%) and Armenia (11.9%) in the border between Europe and Asia; Ukraine (11.9%), Moldova (15.6%), Montenegro (10.4%), Bosnia and Herzegovina (10.5%), and Kosovo (15.1%) in East and South Europe; and Jamaica (15.9%), Nicaragua (13.1%), and Guatemala (13%) in Central America.

Country	Remittances as a share of GDP in 2019 (%)	Country	Remittances as a share of GDP in 2019 (%)	Country	Remittances as a share of GDP in 2019 (%)
Armenia	11.9	Jamaica	15.9	Montenegro	10.4
Bosnia and Herzegovina	10.5	Jordan	10.4		
Cabo Verde	12.1	Kosovo	15.1	Nepal	29.9
Comoros	19.3			Nicaragua	13.1
El Salvador	20.8	Kyrgyz Republic	29.6	Philippines	9.8
Gambia, The	13.5	Lebanon	12.5	Samoa	18.4
		Lesotho	15.7	Tajikistan	29.7
Georgia	12.3	Liberia	12.8	Tonga	38.5
Guatemala	13	Marshall Islands	13.5	Ukraine	11.8
Haití	34.3	México	3.1	West Bank and Gaza	17.6
Honduras	21.4	Moldova	15.6	Yemen, Rep.	13.3

**Table 1.** Migrant remittance inflows. (US\$ million)

Source: World Bank staff calculation based on data from IMF Balance of Payments Statistics database and data releases from central banks, national statistical agencies, and World Bank country desks. Note: All numbers are in current (nominal) US \$. Date: April 2019

At the bottom of the list are Philippines (9.8%) and Mexico (3.1%), the lowest percentage of all; still, the countries with the smallest economies receive the most remittances (Ekanayake & Moslares, 2020). Data of the IMF and the World Bank reveal the

remittance flows in Mexico (USD): 22.08 billion in 2010, 23.446 billion in 2011, 23.209 billion in 2012, 23.189 billion in 2013, 24.802 billion in 2014, 26.233 billion in 2015, 28.691 billion in 2016, 32.271 billion in 2017, 35.562 in 2018 (Ekanayake & Moslares, 2020), and 38.655 in 2019, showing an upward trend (Dilip Ratha, Supriyo De, Eung Ju Kim, Sonia Plaz, Ganesh Seshan, Nadege Desiree Yameogo, 2021). In the year 2020, the country received USD 40.606 billion, the largest amount in its history.

## 2.2. Remittance flow in Mexico

Technology has accelerated remittance transfers for families; in the past, money orders and personal checks were used. In 2020, remittance transfers increased by 11.26%, and they were primarily sent via electronic transfers (OECD, 2010), nullifying the use of personal checks. The use of cash and payments in kind has decreased in time.

Concept	Jan-Dec		Variation
	2020	2019	Relative
	(A)	(B)	(A/B)
Total Remittances 1/	40,604.55	36,048.64	11.26
Electronic transfer	40,170.64	35,508.15	13.13
Money orders	162.93	163.58	-.99
Personal check	0.00	0.00	N/E
Cash and species	270.98	376.92	-28.10

**Table 2.** Remittance flow. Billions.

Source: Banco de México, Sistema de Información Económica, Recuperado de: <https://www.banxico.org.mx/SieInternet/>

Five of the 32 states in Mexico are recipients of the largest remittance flow (see Table 3), amounting to 39.3% in 2020 and 39.1% in 2019. The states are Michoacan (10 and 9.9%), Jalisco (10.2 and 9.7%), Guanajuato (8.5 and 9.1%), State of Mexico (5.9 and 5.6%), and Oaxaca (4.7 and 5%). Giuliano and Ruiz-Arranz (2009) have described the positive effect of remittances on the economic growth.

In 2020, 11 states (39.2%) received remittances: Puebla (4.6%), Guerrero (4.8%), Mexico City (5.3%), Veracruz (4%), San Luis Potosi (3.5%), Chihuahua (3.1%), Zacatecas (3.1%), Chiapas (2.8%), Hidalgo and Nuevo Leon (2.5%), and Baja California (3%). The same states received 39% of the remittances sent to Mexico in 2019.

State	Billions of dollars		Percentage		State	Billions of dollars		Percentage	
	2020	2019	2020	2019		2020	2019	2020	2019
Aguascalientes	539.9	500.3	1.3	1.4	Morelos	756.9	702.6	1.9	1.9
Baja California	1,234.90	938.6	3	2.6	Nayarit	672.8	578.1	1.7	1.6
Baja California Sur	111.6	87.4	0.3	0.2	Nuevo León	1,024.40	949.9	2.5	2.6
Campeche	115.2	87.8	0.3	0.2	Oaxaca	1,897.60	1,803.90	4.7	5
Coahuila	711.2	633.4	1.8	1.8	Puebla	1,872.90	1,763.00	4.6	4.9
Colima	348.2	300.7	0.9	0.8	Querétaro	802.2	703	2	2
Chiapas	1,142.80	996.3	2.8	2.8	Quintana Roo	239.5	184.8	0.6	0.5
Chihuahua	1,278.70	1,122.40	3.1	3.1	San Luis Potosí	1,425.20	1,331.10	3.5	3.7
Distrito Federal	2,141.50	1,705.20	5.3	4.7	Sinaloa	1,039.40	913.1	2.6	2.5
Durango	955.2	870.1	2.4	2.4	Sonora	708	586.6	1.7	1.6
Estado de México	2,415.60	2,032.80	5.9	5.6	Tabasco	279.5	249	0.7	0.7
Guanajuato	3,468.70	3,286.40	8.5	9.1	Tamaulipas	944.6	863.7	2.3	2.4
Guerrero	1,941.90	1,737.80	4.8	4.8	Tlaxcala	244.2	253.9	0.6	0.7
Hidalgo	1,022.90	952	2.5	2.6	Veracruz	1,614.20	1,495.40	4	4.1
Jalisco	4,153.20	3,499.10	10.2	9.7	Yucatán	243.7	219.1	0.6	0.6
Michoacán	4,055.70	3,584.40	10	9.9	Zacatecas	1,202.30	1,116.90	3	3.1
Total	25,637.20	22,334.70	63.10	61.70	Total	14,967.40	13,714.10	37.00	37.90

**Tabla 3.** Income from remittances. Distribution by State.

Source: <https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=1&accion=consultarCuadroAnalitico&idCuadro=CA79&locale=es>

The states that received the lowest remittances in 2020 and 2019 were Campeche (0.3 and 0.2%), Quintana Roo (0.6 and 0.5%), Yucatan (0.6% in both years), and Baja California (3 and 2.6%).

Remittance transfers create commission fees for residents. The money transfer operator discounts the amount of the commission from the total amount of the remittance. Some offices charge a commission on the value of the remittance and, if it exceeds the amount established by the operator, there is a double fee. Some operators offer higher fees but allow for more than one transfer.

### 2.3. Economic-fiscal effect of remittances

Migrants' income is a component to calculate the gross domestic product (GDP) for the services and goods they produce at work. Income is an indirect benefit for the countries of origin, since migrant income adds to the gross national product (GNP) (Vargas-Silva, 2009). The country of residence promotes employment as the employer withholds income tax and thus it is a fiscal income for the countries where migrants reside. Rosenblum

(2004) has described the most positive aspects of migration from the US. In the country, migrants cannot be easily identified by the fiscal policy; however, wages are known when employees are residents or have a work permit. Even when the employee's migration status is not documented, income tax is part of the tax policy since a natural person's wages are susceptible of income tax.

The fiscal benefit for countries of residence is tax collection. Migrants have a fixed wage and income is a legal-labor concept. Therefore, the employer withholds income tax, called *Impuesto Sobre la Renta* in Mexico (2021), and tax payment as well. The migrants' income is directly related to the payment of income tax in the country of residence. It is also directly linked to the value added tax (VAT) or *Impuesto al Valor Agregado* (IVA) in Mexico.

The US Census Bureau (2021a) points out that California is the state collecting the most income tax (USD 84,412,243), while Arizona collects USD 4,530,410 and New Mexico, USD 1,227,926. Nevada and Texas do not collect income tax, so only the federal rate remains. Nowrasteh (2014) describes the complexity of identifying how much of these amounts corresponds to migrant taxes. The author explains longitudinal studies have not managed to clarify this, yet they are recognized as a primary economic benefit for the countries sending and receiving migrants.

The economic-fiscal policy of the countries does not consider remittance flow as a fiscal income for public finances since the flow is mostly private. We analyzed the percentage of the remittance value at the end of 2020 and its relationship with the fiscal revenue of the federation the same year. It represents 12.86% of the fiscal budget, without being part of the revenue.

Remittances to Mexico are not subject to income tax; still, the families receiving them pay taxes when buying immovable properties or goods (López-Arévalo, Sovilla-Sogne, & García-Fernández, 2011). They pay for utilities (phone, electricity, internet service), housing (leasing), and even mortgages, construction, or house expansion. These actions are taxable in terms of IVA, at a general rate of 16%. Furthermore, families contribute to the fiscal system by consuming goods and paying especial taxes on gas, internet service, cigarettes, and gambling, among others.

Remittances are a component of the balance of payments (OECD, 2010). This is a good referent to know the cash flow of the country and the relationship between remittances and revenue. From the sum of the goods and services and the trade operations (current

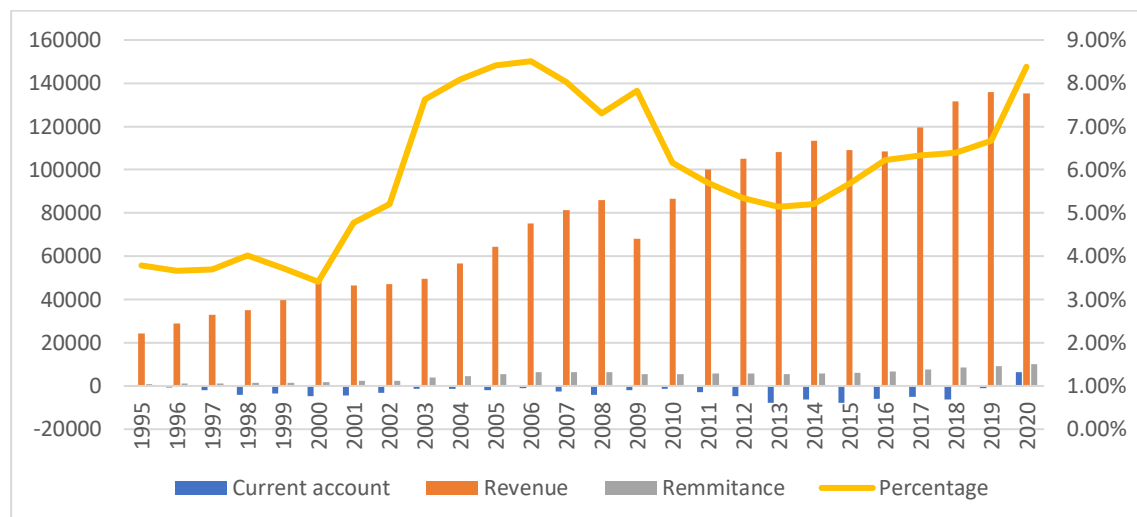
account), it is understood that the relationship between remittances (percentage) and revenue is relatively low (see Table 4).

Year	Current account	Revenue	Remmitances	Percentage	Year	Current account	Revenue	Remittances	Percentage
1995	-394.25	24,257.25	918	3.78%	2008	-4,201.25	86,049.25	6,286.50	7.31%
1996	-627	28,829.00	1,056.00	3.66%	2009	-1,939.15	68,136.63	5,326.50	7.82%
1997	-1,916.25	32,829.50	1,216.25	3.70%	2010	-1,207.13	86,488.02	5,326.00	6.16%
1998	-3,998.25	35,037.25	1,406.75	4.02%	2011	-2,971.60	100,010.60	5,701.00	5.70%
1999	-3,497.25	39,727.50	1,477.25	3.72%	2012	-4,657.66	105,146.10	5,609.50	5.34%
2000	-4,687.50	48,219.00	1,643.00	3.41%	2013	-7,877.91	108,181.19	5,575.50	5.15%
2001	-4,370.50	46,607.00	2,224.00	4.77%	2014	-6,357.16	113,490.21	5,912.00	5.21%
2002	-3,292.50	47,158.75	2,453.50	5.20%	2015	-7,768.40	109,135.42	6,196.25	5.68%
2003	-1,382.25	49,632.25	3,784.75	7.63%	2016	-6,095.76	108,581.53	6,748.50	6.22%
2004	-1,401.75	56,663.75	4,583.00	8.09%	2017	-5,102.28	119,694.86	7,572.75	6.33%
2005	-1,885.75	64,392.00	5,422.25	8.42%	2018	-6,275.09	131,710.26	8,419.25	6.40%
2006	-888	75,142.00	6,391.75	8.51%	2019	-986.2	135,920.01	9,011.50	6.67%
2007	-2,474.50	81,268.00	6,514.75	8.02%	2020	6,530.60	121,075.18	10,151.14	8.38%

**Table 4.** Balance of payments (billions of dollars)

Source: Banco de México CE139, Trimestral, Millones de Dólares, <https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=1&accion=consultarCuadro&idCuadro=CE139&locale=es>

There is a clear decrease in revenue from 2008 to 2009 (Graph 1), which becomes stable again in 2011. However, remittances increased by 100% in 2003 and remained above this percentage for seven continuous years (see Table 7). The most remittances were received in the years 2003–2009.



**Graph 1.** Balance of Payments

Source: Prepared by the authors based on Banco de Mexico CE139, quarterly; millions of dollars; current cash flow.

<https://www.banxico.org.mx/SieInternet/consultarDirectorioInternetAction.do?sector=1&accion=consultarCuadro&idCuadro=CE139&locale=es>

## 2.4. Foreign trade in the context of the trade agreement

Foreign trade operations carried out as part of the NAFTA have maintained a favorable trend. In a 14-year period (2007–2019) exports showed an increasing upward trend. Their value went from USD 237.809 billion in 2007 to USD 417.579 billion in 2019. The USMCA came into effect in 2020, during the pandemic (Vargas, 2020). The same year, the value of exports was USD 374.310 billion, reflecting a slight decrease vs 2019 as a result of the sanitary contingency. This was when the NAFTA was repealed to pave the way for the USMCA (Vargas, 2020). Total exports (see Table 5) were distributed as follows: Agriculture, forestry, fishing, and hunting accounted for 3.95%; mining, quarrying, and oil and gas extraction, 6.28%; manufacturing, 89.77%; and the automotive industry represented 37.35% of the transportation equipment manufacturing. This agreement is the most important instrument for Mexican economy since it mainly contains the regulation of the automotive industry and the links to auto part companies (AMIA, 2018).

Code	Description	2019	%	2020	%
	Total exports	417,579.83		374,310.57	
11	Agriculture, Forestry, Fishing and Hunting	14,776.95	3.54%	14,788.89	3.95%
21	Mining, Quarrying, and Oil and Gas Extraction	30,021.27	7.19%	23,510.27	6.28%
31-33	Manufacturing	372,781.60	89.27%	336,011.40	89.77%
336	Transportation Equipment	171,120.76	40.98%	139,793.80	37.35%

**Table 5.** Yearly exports per North American Industry Classification System (NAICS) sector and subsector. Billions of dollars.

Source: Quarterly exports per state, INEGI, 2021. Data retrieved from Annex 1.

The states that contributed the most to annual exports in 2020 (see Table 6) were Baja California (10.86%), Coahuila (12.01%), Chihuahua (14.67%), Guanajuato (6.40%), Jalisco (5.37%), Nuevo Leon (9.20%), Sonora (4.74%), and Tamaulipas (7.13%). Together, they account for 70.40% of the total exports (INEGI, 2021).

State	2019	%	2020	%
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Total exports*	417,579.83		374,310.57	
Baja California	42,396.95	10.15%	40,659.06	10.86%
Coahuila	47,659.46	11.41%	44,961.56	12.01%
Chihuahua	57,434.14	13.75%	54,920.39	14.67%
Guanajuato	25,065.79	6.00%	23,974.57	6.40%
Jalisco	21,659.64	5.19%	20,099.36	5.37%
Nuevo Leon	39,857.05	9.54%	34,455.03	9.20%
Sonora	19,840.53	4.75%	17,735.40	4.74%
Tamaulipas	29,130.16	6.98%	26,691.00	7.13%

**Table 6.** Annual exports per state. Billions of dollars. Source: Quarterly exports per state, INEGI, 2021. Data retrieved from Annex 1.

## 2.5. Theory of liberalism, neoliberalism, and globalization

Meyer (2000) studied liberal and neoliberal theory that states liberals hold an optimistic view of the world. They consider that international economic interdependence, offshore interactions, and international institutions promote cooperation and even peace among nations. The development of economic activities makes multinational corporations the main actors in the relationship between economy and society, and they are key to establishing migration policies.

In the context of the neoliberalism where the NAFTA operated, neoliberal theory considers it is of common interest and deals with common problems; it promotes collaboration and coordination between countries. Meyer (2000) quotes Krasner (1983), who studies international regimes, and Keohane (1985), who analyzed the cooperation of the world economic policies. The study period of this document (1995–2020), the analysis variables, the increase in remittances, export trends, and the phenomenon of migration are all determined by the theory of economic globalization. Meyer maintains that international migration is a key component of globalization. If governments welcome capital mobility, investments, and ideas, then human mobility will likely not stop. Rosenblum (2004) studied this in special mobility systems of trade agreements as NAFTA, an agreement between the governments of the countries.

Vargas-Silva (2009) has studied the representativity of remittances in the income of Mexican families since previous studies only dealt with some variables. The main reason to carry out this study was the lack of knowledge regarding the impact of remittances in tax collection, since it is wrongly believed that the Mexican economy largely depends on remittances. The correlation between remittances with exports and the population in the border states in both countries has not been studied.

With the data presented in this work, we seek to integrate the neoliberal and globalization theories with a data trend, considering the relevance of the new USMCA (ITA, 2021). This new agreement adds a section for small and medium size enterprises that promotes the participation of these businesses to increase trade and investment opportunities. According to Vargas (2020), the new agreement meets the general principles that implement good regulatory practices to reduce or eliminate costly, duplicate, or divergent procedures in their scope of application. In this sense, we analyze the data for forecasting, seeking to observe the relationship between Mexican exports, remittances, and population movement in the border states of Mexico and the US.

### 3. Method

To analyze the distribution of exports and remittances in Mexico, we use the time series method, considering data of 1995–2020 for remittances and 2007–2020 for exports. The analysis of time series is a quantitative method applied to identify patterns in data collected along a period of time. Once the time series is analyzed, projections are created from the patterns found to assess future values regardless of their cause (Pérez-Ramírez, 2007).

The data considered for the analysis are observations, carried out over time, that can have an internal structure (autocorrelation, trend, or seasonal variation). They are relevant enough to be treated as functions in a time variable.

There are different methods to analyze time series. For instance, simple smoothing methods are based on the supposition that the future value of a variable  $Y$  in time  $t + 1$  depends on the value of the time series in the current period  $t$ , of the previous period  $t - 1, \dots$ ; therefore, there is the following expression:

$$Y_{t+1} = f(Y_t, Y_{t-1}, Y_{t-2}, Y_{t-3}, \dots).$$

A nonseasonal autoregressive integrated moving average (ARIMA) model will be used to make forecasts for time series (Mauricio, 2007). The ARIMA model allows to forecast without historical data and mistakes caused by chance. Using this method, data can be analyzed when they do not show a seasonal behavior along a certain period of time that might be considered significant.

It is known that the historical behavior of remittances is different between periods of time. The ARIMA method is a simple alternative to econometric models, for instance. In clear

terms, an ARIMA model can be considered a filter that seeks to separate the signal from the noise, and the signal is extrapolated in the future to obtain a forecast.

The ARIMA forecasting equation for a stationary time series is a linear equation in which the predictors consist of lags of the dependent variable and/or lags of the forecast errors.

A nonseasonal ARIMA model is classified as an “ARIMA ( $p, d, q$ )” model where:

$p$  is the number of autoregressive terms,

$d$  is the number of nonseasonal differences needed for stationarity, and

$q$  is the number of lagged forecast errors in the prediction equation.

The forecasting equation is built as follows. First,  $y$  denotes the  $d$ th difference of  $Y$ , which means:

$$\text{If } d = 0: y_t = Y_t$$

$$\text{If } d = 1: y_t = Y_t - Y_{t-1}$$

$$\text{If } d = 2: y_t = (Y_t - Y_{t-1}) - (Y_{t-1} - Y_{t-2}) = Y_t - 2Y_{t-1} + Y_{t-2}.$$

The general forecasting equation is:

$$\hat{y}_t = \mu + \phi_1 y_{t-1} + \dots + \phi_p y_{t-p} - \theta_1 e_{t-1} - \dots - \theta_q e_{t-q}.$$

The final result is presented in confidence intervals. This interval is a range of values calculated so that there is a certainty; that is, 80–95% of confidence that the real value of the forecast variable is found within such range.

On the other hand, once the forecasts are made, the correlation between remittances and exports will be measured through Pearson’s correlation coefficient ( $r$ ), a measure of linear association measure. It has two variables with values ranging from  $-1$  to  $+1$ .

According to Hernández-Lalinde et al. (2018), the values of a Pearson’s correlation coefficient close to zero indicate a low association between variables. In contrast, those close to  $-1$  or  $+1$  indicate a strong linear association between two variables.

Pearson’s correlation coefficient  $r$  has no dimension and, if  $|r|$  is close to 1, there is a strong correlation, but if it is close to zero, the variables are not correlated. That is, the positive values of the correlation coefficient indicate a variable has a trend towards increase or decrease along with another variable. Negative values of the correlation

coefficient indicate a trend where the values of a variable are linked to a decrease in the values of another one and vice versa (Encyclopedia of Public Health, 2008).

After studying the correlation between data, we developed a simple linear regression model containing a predictor, the variable with the highest correlation with the output response quality. Finally, we coded the variable region to introduce it to the regression model.

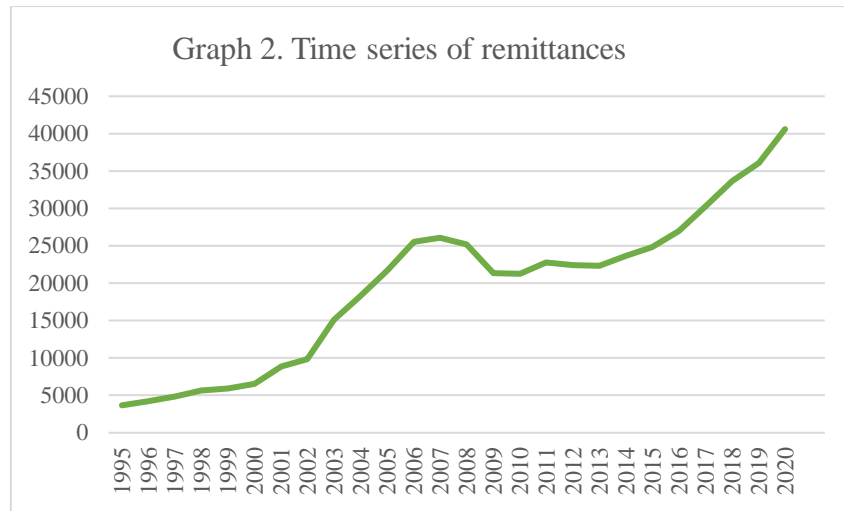
## 4. Results

In the first stage, the time series was completed to analyze the behavior of remittances during the period 1995–2020 using the data in Table 7. Then, time series and forecasts of remittances received in Mexico were obtained. To do so, the ARIMA method was used as described in the previous section. The method showed confidence levels of 80 and 95%, respectively.

Year	Amount	Increase %	Year	Amount	Increase %	Year	Amount	Increase %
1995	3,672.70	0	2004	18,331.70	21.09	2013	22,302.80	-0.6
1996	4,223.70	15	2005	21,688.30	18.31	2014	23,647.30	6.03
1997	4,864.80	15.18	2006	25,566.80	17.88	2015	24,784.80	4.81
1998	5,626.80	15.66	2007	26,058.80	1.92	2016	26,993.30	8.91
1999	5,909.60	5.03	2008	25,145.00	-3.51	2017	30,290.50	12.21
2000	6,572.70	11.22	2009	21,306.30	-15.27	2018	33,677.20	11.18
2001	8,895.30	35.34	2010	21,303.90	-0.01	2019	36,048.60	7.04
2002	9,814.40	10.33	2011	22,803.00	7.04	2020	40,606.60	12.64
2003	15,138.70	54.25	2012	22,438.30	-1.6	(1) 2021	6,471.39	0

**Table 7.** Total family remittances. Period 1995-2020. Billions of dollars. Source: Prepared by the authors based on the information published by Banco de Mexico, Sistema de Informacion Economica. Retrieved from: <https://www.banxico.org.mx/SieInternet/> (1) Remittances by February 2021.

To generate forecasts and result reports we used *R* free software (The *R* Project for Statistical Computing), a common tool for time series (Development Core Team, 2013). After applying the analysis of time series, the patterns found in a certain period of time (year 2025 in this case) are projected. The time series of the remittances is shown in Graph 2.



**Graph 2.** Time series of remittances received in Mexico. Period 1995-2020. Millions of dollars. Source: Source: prepared by the authors based on the information published by Banco de Mexico, Sistema de Informacion Economica. Retrieved from: <https://www.banxico.org.mx/SieInternet/>

It must be noted that the graph in this analysis is growing and shows a dramatic drop from 2020. The remittance projection is shown in Graph 3.



**Graph 3.** Remittances in Mexico projected to 2025.

Time series that show the evolution and projection to year 2025, with confidence levels of 80 and 95%, respectively.

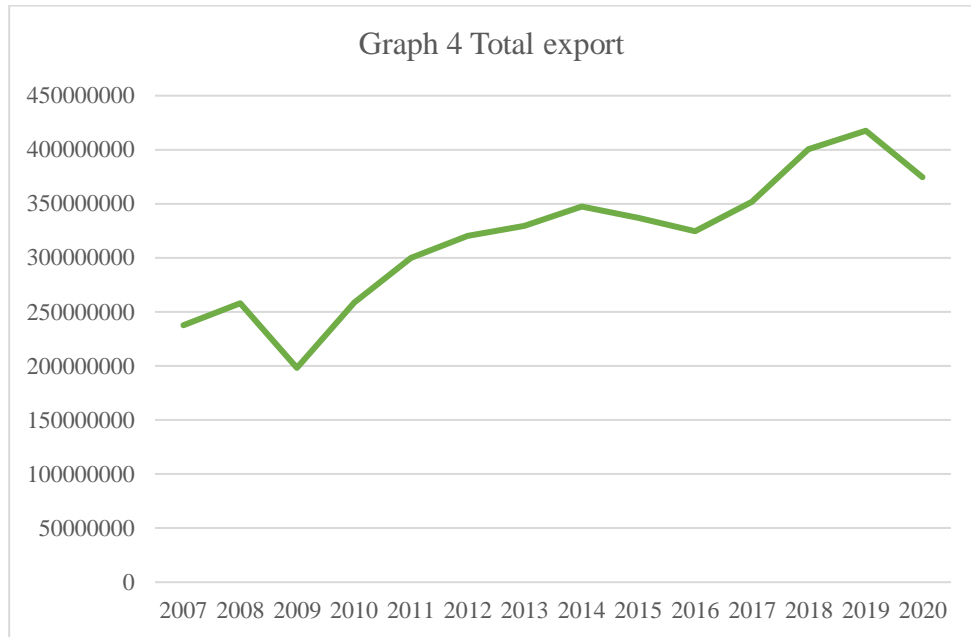
The results of the forecast are shown in Table 8 (2021–2025).

year	Forecast point value	Lo 80	Hi 80	Lo 95	Hi 95
2021	43,798.61	41,616.84	45,980.39	40,461.87	47,135.35
2022	46,249.27	42,238.12	50,260.42	40,114.75	52,383.79

2023	48,297.58	42,626.81	53,968.34	39,624.89	56,970.26
2024	50,127.51	42,976.03	57,278.99	39,190.27	61,064.76
2025	51,838.94	43,364.55	60,313.32	38,878.48	64,799.39

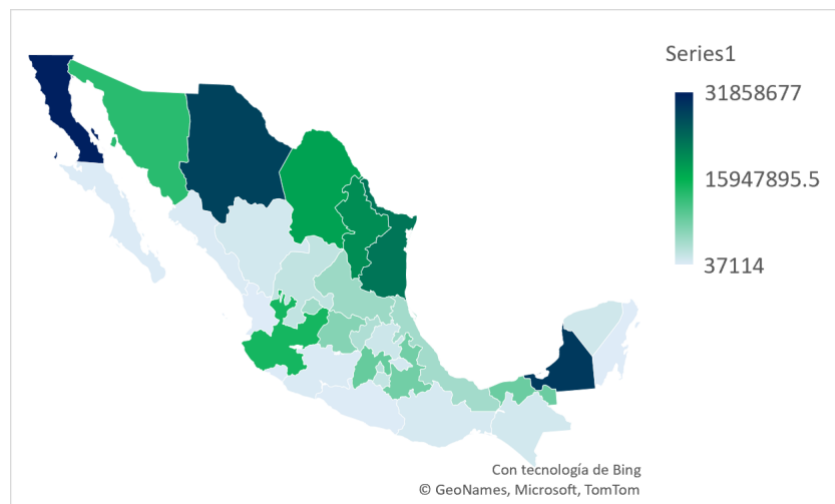
Table 8. Total family remittances forecast. Period 2021–2025. Billions of dollars

The total exports in the period 2007–2020 are shown in Graph 4.



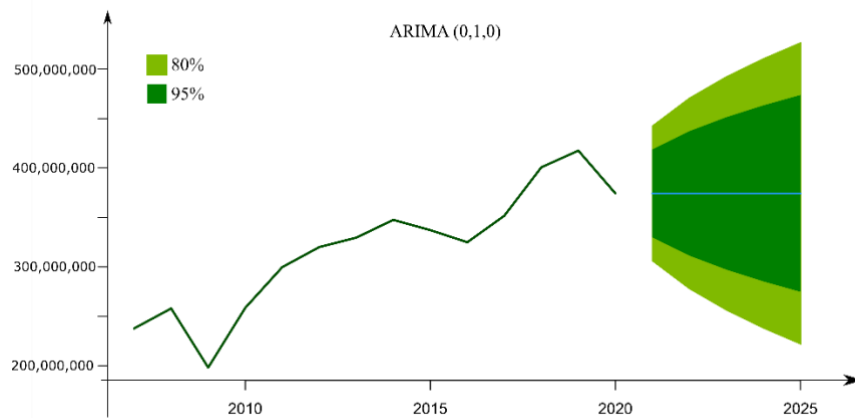
**Graph 4.** Total export.

Exports by state are shown in Graph 5 below.



**Graph 5.** Exports by state.

Graph 6. Projection of Mexican exports to 2025. The time series shows the evolution and projection to 2025, with confidence levels of 80 and 95%, respectively.



**Graph 6.** Projection of Mexican exports to 2025.

The results of the forecast are shown in Table 9 (2021–2025).

Year	Forecast point value	Lo 80	Hi 80	Lo 95	Hi 95
2021	374,310.57	329,820.41	418,800.72	306,268.75	442,352.38
2022	374,310.57	311,391.99	437,229.14	278,084.91	470,536.23
2023	374,310.57	297,251.36	451,369.77	256,458.68	492,162.45
2024	374,310.57	285,330.26	463,290.87	238,226.93	510,394.20
2025	374,310.57	274,827.56	473,793.57	222,164.44	526,456.69

**Table 9.** Total exports forecast. Period 2021–2025. Billions of dollars.

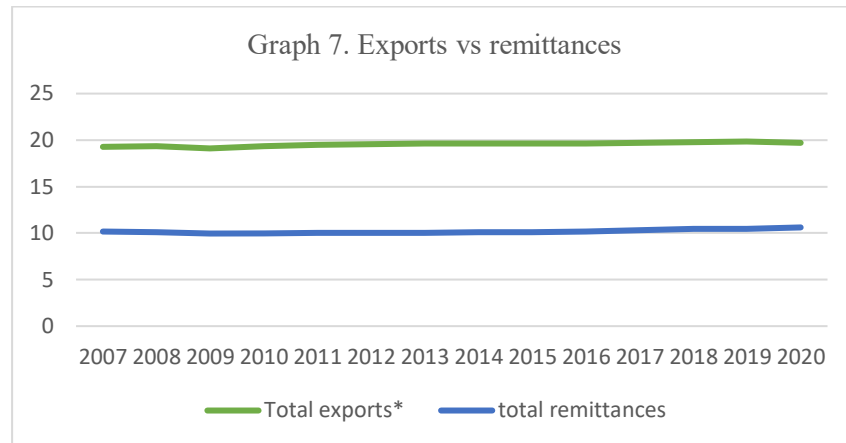
Graph 7 compares data on exports and remittances at logarithmic scale, using the data in Table 10.

year	Exports	Remittances
2007	237,809.74	26,058.8
2008	257,967.78	25,145
2009	198,234.12	21,306.3
2010	258,504.75	21,303.9
2011	299,732.52	22,803
2012	320,014.16	22,438.3
2013	329,562.71	22,302.8
2014	347,559.68	23,647.3
2015	337,170.19	24,784.8
2016	324,901.42	26,993.3
2017	351,726.06	30,290.5
2018	400,710.00	33,677.2

2019	417,579.83	36,048.6
2020	374,310.57	40,606.6

**Table 10.** Total exports and remittances. Billions of dollars.

Graph 7 is a comparison of the total exports and remittances in Mexico at a logarithmic scale from 2007 to 2020 with the data in Table 10.



**Graph 7.** Total exports and remittances in México.

As inferred from Graph 7, if the remittances increase, the exports do so as well; therefore, we will determine Pearson's correlation coefficient. The graph analysis indicates there is a marked relationship between remittances and exports, and the tentative consideration of the linear model seems reasonable. We found that the value of Pearson's correlation coefficient is 0.70. It is known that values between 0.50 and 0.70 indicate variables that can be considered moderately correlated.

On the other hand, the value of the determination coefficient  $r^2$  is 0.49, which means 49% of the variability of the exports can be attributed to a linear relation with remittances.

## 5. Conclusion

This study contributes to understanding the relationship between remittances and export growth as well as that of the population index and the border states of Mexico and the United States. Our results are strongly supported by the symmetric relation of the trend. Specifically, remittance transfers are directly related to the livelihood and lifestyle improvement of families who receive them (OECD, 2010). To a certain extent, this agrees with the work by Ekanayake & Moslares (2020) who have discussed the decrease in the poverty indicator during this period.



As Vargas-Silva (2009) concludes, the results suggest that the increases in remittances affect the families' internal demand as another source of income for other disposal ends. We also detected a bidirectional relationship between remittances and exports and thus, in collection.

Immediate collection is affected by the participation in economy with acts of asset and services disposal that families in the country of origin do, as Vargas-Silva (2009) also indicates, and the dollar as currency exchange versus the Mexican peso. The value added tax is collected based on what is effectively paid and charged; this only happens when goods and services are purchased.

Furthermore, residents in the host country directly affect the fiscal policy of that country when they consume and the country itself. The value added tax is the second most important tax and it is effectively collected in Mexico, which indicates an immediate revenue for the public finances of the treasury.

With this study we dispel the fallacy that remittances are a key component of the Mexican economy. We know they are important for some families but certainly not for the public finances of the country given that they are eminently private and are not part of the fiscal revenue (Ley de Ingresos de la Federacion, 2019) or the payment balance. They are an analysis point with a private nature in economic terms. Financial transfers evidence the independence of family remittances (Ekanayake & Moslares, 2020) and their destination. Finally, based on neoliberal theory and globalization, our study confirms that only the countries involved in the USMCA (United States, Mexico, and Canada) have formalized an economic-contractual system. This scheme combines a trade agreement with capital mobility and an employment regime that have been reconciled between the three nations (Meyer, 2000; Rosenblum, 2004), respecting the sovereign rights of each country to control its border states.

### **Acknowledgements**

The authors thank Universidad La Salle Mexico for the support to this work as part of the Human Rights, Migration, and Human Mobility project.

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**Inequality, Economism and Bad Management****Natàlia Cugueró-Escofet***Open University of Catalonia***Josep-Maria Rosanas Marti***IESE Business School*

Received March 9, 2022; accepted May 30, 2022.

**ABSTRACT**

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The past decades have shown an increase in inequality, measured in economic terms, that affects society, creating unfair increasing differences between the welfare of the richest and the poorest, and being even worse with respect to middle classes and people with a stable job. We show how the economies of the Western World have evolved since World War II, first with an unprecedented improvement of the economic conditions for everybody in the developed economies and later, since the middle 70's, with a shift towards inequality that followed a change of both the economic and the management theories (often called neoliberalism) and their application into real-world's economies and management practices. We next go to the existing academic literature in management and justice to discuss in more depth the current problems, to show how bad management has been at the same time the cause and the consequence of such problems; and, finally, we put forward some proposals in terms of management and justice that we believe should be incorporated in companies and organizations to help solving the problems and generate improvements for the actual unrest and the existing divided society.

**KEYWORDS**

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Inequality, Happiness, Fairness And Justice, Management Techniques, Neoliberalism, Crisis.

## **1. Introduction**

The past few decades have seen a substantial increase in inequality, measured in economic terms (Milanovic, 2016; Piketty, 2013, 2015; Stiglitz, 2012). Neoliberal policies promised faster economic growth, and benefits for everyone, including the poorest. However, workers would have to accept lower wages, and all citizens would have to accept cutbacks in important government programs at the beginning. The elites claimed that their promises were based on scientific economic models, but according to Stiglitz (2019), after 40 years of neoliberalism, “the numbers are in: growth has slowed, and the fruits of that growth went overwhelmingly to a very few at the top. As wages stagnated and the stock market soared, income and wealth flowed up, rather than trickling down”. The GDP of most countries has increased regularly on the average and except for some years (2008, 2010 and 2020) for obvious reasons.

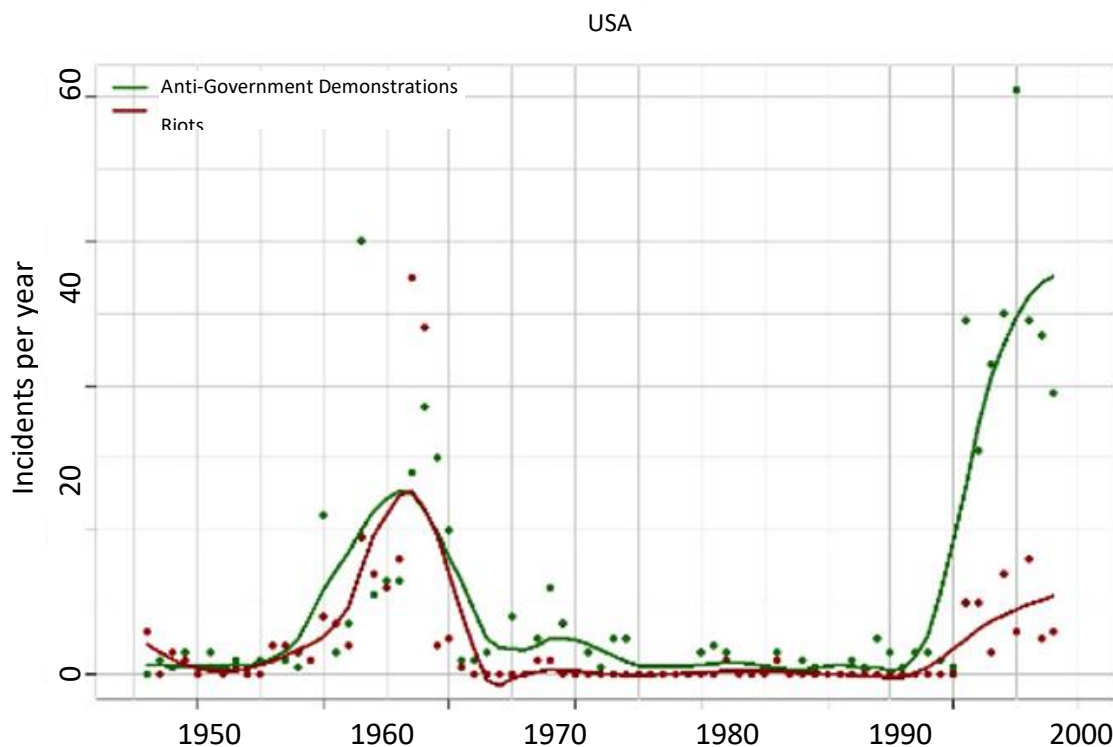
Inequality is a serious problem and is one of the roots of the social unrest and protests. It may become even worse, because together with economic inequality we have seen some bad management we have seen some bad management practices developing that ignore these problems and seriously contribute to them. Such bad management practices have generalized since the 80's of the last Century and have created a bad climate within many firms and organizations in general, that often result in demotivation on the part of the employees, and serious health problems like depression, addictions and even premature death or suicide. Billionaires that dominate the world coexist with people that have a job in a very precarious situation, and many people that are unemployed. Our purpose in this paper is to examine this problem, putting together the social and political context in which this is happening with the economic theories and management practices that have at the same time helped to create and been a consequence of such situation.

We will proceed as follows. First, we will examine how the economies of the Western World have evolved since World War II, stressing the political, cultural and social factors that have influenced that evolution and how, in parallel, the conventional wisdom has changed both in economic theory and in management. Some of the management theories and the way they have been applied into practice have generated the social conflicts that exist or have existed. We will show how the “progressive” spirit of the post-war decades shifted in the opposite “conservative” direction in the 80's and how now this may begin to change. We then go to the academic literature to (briefly) consider Pfeffer's approach, and to discuss in more depth the philosophical analysis of Sandel based on the concept of

justice. Finally, we put forward some proposals of what we could all do if we want to solve the problems of social unrest and of a divided society.

## 2. Socio-Political Unrest, Economics and Management

The 21<sup>st</sup> Century has shown a clear increase in protests and demonstrations. In the last two years affected by the Covid-19 pandemic, but the social unrest took place before that because of the Great Recession that started in 2008.



**Figure 1.** Anti-Government Demonstrations and Riots in the US (1950-2020). Source: Turchin & Korotayev, 2020.

The past decade, then, has seen a dramatic increase in socio-political instability in the U.S. and Western Europe (UK, France, Italy, Spain...), that started well before the pandemic, but after the 2008 crisis (De Franco, 2020). In fact, the forecasted movements in 2010 for the past decade in terms of demonstrations and riots have actually taken place, as we can see in Figure 1. The arguments of Turchin and Korotayev for both the good prediction and the actual realization of the prediction have to do with the “Public Stress Indicator”, based on “immiseration, intra elite competition, and state (in)capacity”, which is highly correlated with socio-political instability.

In his book *Economism*, James Kwak (2017) asks in his Foreword:

*Why are we so angry? Prospective international trade agreements attract widespread objections, attempts to balance budgets draw thousands into the streets, and people are outraged about issues such as pollution, corruption, and the power of big banks. Protest votes of all kinds are growing in number, and frustration with our economic system seems to be spreading across much of the world. Yet according to basic economics, we—citizens of the world—have never had it so good.*

He attributes it to *economism*, which he defines as “invocation of basic economics lessons to explain all social phenomena” resting “on the premise that people, companies, and markets behave according to the abstract, two-dimensional illustrations of an Economics 101 textbook, even though the assumptions behind those diagrams virtually never hold true in the real world”. (Kwak, 2017). What he has in mind, though, is mainly what has been done in the marketplace (i.e., lowering minimum wages, lowering taxes, the “invisible hand” that makes markets unbeatable, and so on).

Many economists have been worrying about inequality, possibly as both a factor of socio-political instability, and because of ethical reasons related with social justice. Stiglitz (2012) was seriously concerned with the consequences of inequality, (Atkinson, 2014) asks (and attempts to answer) “what can be done” and (Krugman, September 7, 2020) worries about this becoming worse after the pandemic. Piketty (2013, 2015) and Milanovic (2016) are the standard references for the current state on inequality from the point of view of accumulation and analysis of data.

Piketty’s recipe for solving the problem of inequality is essentially taxation. Specifically, a worldwide tax on wealth. This has been widely criticized. The Economist, in May 2014, said that “*Le capital* contains some marvelous scholarship, but as a guide to action, is deeply flawed”.

Atkinson went much further: minimum wage and a suggested maximum at a multiple of the minimum, “participation income” paid to all those deemed to be contributing to society (through work in the market or public service), guaranteed employment, in the public sector, if necessary, more welfare state, and many other measures (up to 15).

Economists, including the ones we just cited, do not pay too much attention to what happens inside the firms, which is logical if we think that what they intend to propose are the measures that can be taken legally, and for the economy as a whole, but they miss what happens inside the firm. Unhappiness seems to be increasing, and not only because of economic reasons (wages), but in addition to many other factors. Among them, bad management.



Pfeffer (2018) has found many reasons why employees may be angry in terms of the number of deaths that could be avoided. Deaths due to lack of insurance by firms (as many as 45,000 per year in the US); cardiovascular diseases due to doing highly demanding work combined with having low control over that work; connections between overwork and increased injury; unhealthy weight gain, increased smoking and alcohol abuse, drug abuse, and poorer health in general.

Obviously, if this happens, we are missing something. From a social point of view, we possibly should be interested in is something as broad as “happiness” and not only in GDP or other purely monetary variables. An early death in exchange for the salary, as Pfeffer’s title suggests, cannot be a good thing neither for the individual person nor for society.

If we look at that from this point of view, management is what is missing; or, in other words, bad management is an important reason for all the circumstances described in the previous paragraph. Sometimes it is because of the personality of some managers (mainly top managers) as can be seen in Sutton (2007) and James (2012); sometimes because of the meaninglessness of some jobs (Graeber, 2018).

Lately, Layard (2006) has been studying happiness in depth and has concluded that one important factor for unhappiness is the comparison of one’s income with other people’s, together with changing tastes and adaptation: when the income of an individual grows, the idea of what income is “sufficient” for the others grows as well. Inequality plays a crucial role in unhappiness and, therefore, in social unrest.

As mentioned, most of all this has to do with bad management. First, because there is a well-known relationship between happiness and productivity and, therefore, the economic results of the firm (Jundt & Hinsz, 2001; Oswald, Proto, & Sgroi, 2015; Patterson, Warr, & West, 2004; Zelenski, Murphy, & Jenkins, 2008). And second, and perhaps more important, because no matter how good the economic results are, they cannot justify unfortunate circumstances like premature deaths. The objective of a firm should go well beyond those economic results.

As we will see below, the kind of management that has created this type of situation has also been reflected this century in a significant number of popular movies.

There are surely many reasons for the current situation, but we must see them in the context of the social and economic circumstances and the dominant culture at a given

moment. Therefore, we turn now to a review of such circumstances conditioning the current situation.

### **3. Management and Economics Since World War II**

World War II changed the world in many important ways. Democracies had won the war, and when it was finished, reconstruction had to be a high priority, mainly in Europe, where many countries, mainly the big ones like the UK, France, West Germany and Italy were devastated and needed a great effort to be rebuilt. The US provided aid in the form of what was called “The Marshall Plan”, which had reconstruction as its main objective, together with modernizing European industry to improve productivity. In addition, it may be considered to have encouraged the creation of the European Common Market, since it required dropping many regulations and commercial barriers, and encouraged the adoption of modern business procedures, which had been one of the reasons of the US economic success.

Before the war, the world (mainly the developed world) had been through the Great Depression. Keynesian policies did a lot for the economic recovery and Keynesianism became *the* generally accepted economic theory: government spending would create income for people and then with that income people would increase their demand for products, thus creating the possibility of more jobs and increasing the GDP. The war required all economies to do precisely that (to increase Government spending), and soon it became obvious (mainly in the US) that if the economy was in better shape after adopting this policy, the spending necessary for the war confirmed it further. However, there were some fears that after the war the economy would fall into depression again, and the application of the Keynesian policies of strong government spending not only prevented that, but it was the beginning of the possibly best two or three decades in history from an economic point of view.

Those decades were called “The Golden Age of Capitalism”. In the four years that the Marshall Plan lasted, all Western European countries (except West Germany) reached the economic levels of the year previous to the war, and West Germany (by far, the most devastated country in Europe) did it shortly thereafter, in what was called “the German miracle”.

However, while the USSR was among the winners too, it was not a democracy. Its economic system was a communist system, of centralized planning and public ownership, and thus the enemy of capitalism. Other countries that might have been democracies were

engulfed by the Soviet Union in the “Eastern Bloc” of communist countries (Poland, East Germany, Czechoslovakia, Romania, Albania, Bulgaria, Yugoslavia); and what was called “the Cold War” begun almost immediately. Stalin rejected American aid offered in the context of the Marshall Plan, and prevented some of the communist countries (Poland, Hungary) from receiving it as well. Stalin and the Communist Party of the Soviet Union wanted to expand communism to other countries in the West (in fact, to the whole world), and their arguments were based on equality and effectiveness of the communist regimes. So, for the Western countries (the US and Western Europe) in order to avoid this from happening they had to convince their people that capitalism worked quite well, trying at least to reduce inequality or not to let it grow, together with worker satisfaction and some degree of a welfare state (different for every country) second only to reconstruction and economic progress.

As mentioned above, the Marshall Plan encouraged the adoption of modern management methods that were so successful in the US in the first part of the 20<sup>th</sup> Century, including the humanistic view of management that had been developed by Follet, Mayo, Roethlisberger, Barnard and many others. The Hawthorne Experiments that took place in the Western Electric plant of AT&T were a landmark of this research.

These modern methods were an important factor in the American growth and economic power, and so Europe wanted to achieve the same level of prosperity. Jean Jacques Servan-Schreiber, an influential French writer, argued in a book that soon became a best-seller (Servan-Schreiber, 1968) that the United States and Europe were waging a silent economic war in which Europe seemed a little bit outdated, in terms of both modern management methods, and technological equipment and research capacity. In his opinion, then, Europe should unite or at least coordinate its efforts, and import the management methods that had been developed in the United States. Since the last 50's, some business schools that followed the American model were created in Europe, and thus the American methods and humanistic spirit were imported. Business Schools were about business, of course, and this included making profits and increasing the value of the firm, but in a way that considered the interests of all stakeholders (even though at that time that word had not been coined yet), mainly the employees. The fear of a possible communist revolution (as the ones that took place at the end of the war in the neighboring countries of the Soviet Union) was an important part of the adoption of this approach: in countries like Italy and France, the

Communist Party obtained an important size of the vote. Capitalism had to be careful not to transmit the image that it was good only for the capital.

So, from a macro point of view, full employment was a priority, government spending was used whenever it was necessary to promote it, and negotiations with organized labor led to a welfare state with strong social security and a reasonable salary level.

In fact, in the 50's, partly as a result of the Cold War, and of concern about the Soviet successes in the scientific and technological fields, that had produced an atomic bomb much earlier than was expected by American officials, AT&T went back to promoting the teaching of the humanities to its executives. The idea was to promote the humanities, because "liberal education was an education for free men, competent to fit them for freedom", while vocational education was more "suited to slaves and industrial serfs" (Bowles, 1998; Rosanas and Velilla, 2003). A former chairman of Inland Steel Company agreed, hoping that liberal arts would prove to be "the Achilles heel of the Communist dynasty". John Markle II, vice-president of the Pennsylvania Bell, argued that business needed the liberal arts because of "overspecialization and the need for operating in a different kind of world" (Bowles, 1998).

Management, then, both in theory and in practice, developed along parallel lines to the economic developments and economic theory. This meant, both in Western Europe and in the US, a management style, both in theory and in practice, that was trying to take into account the interests of everybody, preserving employment and having a reasonable sharing of the value added.

#### **4. The Changes of the 80's**

Unfortunately, this state of affairs did not last forever. The crises of the 70's (the Vietnam War in the late 60's and early 70's, together with the 1973 oil crisis, the Iran revolution, etc.) resulted in "stagflation" i.e., stagnation and inflation at the same time. Increasing government spending, then, resulted in more inflation without growth and with high levels of unemployment, so that the conventional economic measures were not solving the problem. Then, the "classically" liberal economists, mainly associated with the University of Chicago. Friedman, Stigler and Hayek may have been the standard-bearers, although Hayek represented a different view, more traditional perhaps, of the classical liberalism, which included socio-political factors besides the purely economic ones. In any case, they strongly argued that Keynesianism was the cause of all economic evils and that policymakers had to change their frame of mind.

The academic discussion was interesting, but what was successful electorally were simplified versions of the classical liberalism. Rightly or wrongly, this came to be called “neoliberalism”, which in politics can be personalized in Margaret Thatcher and Ronald Reagan. As Walter Heller argued in 1975, “much of what the public perceives as a clash of economic concepts and findings is in fact a clash of ideology and values”. Specifically, most of the discussions of economic policy, labeled “monetarism” versus “Keynesianism” have to do with ideology and values:

*whoever opens the package labeled “monetarist” typically finds not just money supply in full flower, but a dedication to minimum government intervention, small budgets, reliance on rules rather than authority, and price stability. Contrasting correlations appear in the Keynesian package (...) The associational chains are not linked together by any inexorable logic—in part, they seem to be an accident of birth as in the case of the Chicago twins of monetarism and laissez-faire rules. A belief in the supremacy of monetary over fiscal tools could quite logically go hand-in hand with avid interventionism (Heller, 1975).*

Thatcher, Reagan, and, later, other Western political leaders, embraced a version of neoliberalism that recently has been characterized by Stiglitz, in a newspaper article (2019) in four types of actions or policies: lower taxes on the rich, deregulation of labor and product markets, financialization, and globalization. According to Stiglitz, this experiment has been a spectacular failure. “Growth is lower than it was in the quarter-century after the Second World War, and most of it has accrued to the very top of the income scale. After decades of stagnant or even falling incomes for those below them, neoliberalism must be pronounced dead and buried.”

In different words, Marglin and Schor (1992) state:

*For some twenty years after the World War II, Keynesian economic policies in countries of the capitalist West were successful in generating rapid growth with high employment. This “golden age of capitalism” did not survive the economic traumas of the 1970’s; nor has the more recent emphasis on monetarist policies and supply-side performance succeeded in regenerating comparable growth rates.*

Unfortunately, this wave of neoliberalism reached the inside part of the firm, in the form of shareholder value maximization. Milton Friedman’s wrote a famous article claiming that the social responsibility of a firm was to maximize its profits (Friedman, 1970). This had been easily dismissed earlier by accounting academicians (Anthony, 1960): maximizing accounting profits in the short run is -trivially- not a good thing (neither for the firm nor for society) and maximizing profits in the long run may be a good thing, but there is no rule that you can follow to achieve it. But in the 80’s, the same idea was reformulated in terms of shareholder value, purportedly incorporating the assessment of

uncertainties through the market value, which is an aggregate of the (different) beliefs of investors.

Unfortunately, as Senge has argued, in practice this goes back to the previous argument by Anthony:

*...firm value maximization will almost become, by default, short-term profit maximization. The reason is that the complex feedback dynamics that bedevil our simplistic causal theories take time to play out. (...) For example, a manager does not require a complex theory to determine that cutting head count can boost short-term profits. Only in the longer run do the negative effects on morale, risk-taking, and innovativeness, and the unintended loss of key people, affect new products and new revenue generation (Senge, 2000, p. 65-66).*

The “Chicago Twins”, then, became the “Chicago Triplets” with the addition of shareholder value maximization as the overall objective for business firms, and, unfortunately, this idea became predominant in the world of business. Many firms included it as their overall objective and published it in their Mission Statement or anywhere else in their Annual Reports.

Value maximization came together with strong incentive systems, essentially based on quantitative variables, intended to make sure that CEO’s and the top management team are motivated to increase shareholder value, and from them, downwards, to try to meet the financial variables that may be considered desirable by the shareholders. “Balanced Scorecards” and KPI’s were the tools to achieve such an objective.

Essentially, all this compared with the previous situation, led to three consequences. First, a financialization of the economy, and of the management of the firms: everything would have to be sacrificed to shareholder value. Second, a mechanistic view of the management of the firm, in terms of having to satisfy a set of quantitative indices and almost nothing else, thereby forgetting important qualitative variables, like the organization climate, the development of the employees’ capacities and attitudes and the informal control systems that are the lubricant of the management system. And third, the change of labor relations that started with their deregulation and implied much less implication of those employees. The fall of the Berlin Wall and of the Soviet Union, making communism disappear from the European Map greatly decreased the danger of communism, and, therefore, the neoliberal policies were reinforced by this fact.

## **5. The 21st Century**

The 21<sup>st</sup> Century began with a booming economy. Not without some scandals, though, like ENRON, Tyco, or Worldcom, but until the crisis of 2008 we had “more of the same”,

i.e., financialization, laissez-faire (including downsizings and low salaries), delocalization, and so on.

The Great Recession of 2008 put into perspective the problems of this economic and managerial context. As we mentioned before, this has been reflected in several well-known movies: We will just name and briefly comment a few of them:

- “The Company Men” (John Wells, 2010), about outplacement and management
- “Margin Call” (Chandor, 2011) about financial markets
- “Sorry we missed you” (Ken Loach, 2019), talking about the balanced score card and statistics
- “American Factory” (Oscar, 2020) about deteriorating conditions of work for many employees
- “The Social Dilemma” (Documentary, Jeff Orlowski, 2020), about how to reach customers in social networks

The John Wells’ film, “The Company Men” is about successive layoffs and is based on the case of the corporation Global Transportation Systems, or GTX, that is downsized in the middle of the recession. Many employees are fired, including Bobby Walker (Ben Affleck). Walker is a white-collar, corporate ladder-climbing employee with a six-figure salary, a wife, and a teenage son and younger daughter. Walker gets outplacement services from GTX but, without success, gradually loses luxuries and is forced to take a manual labor job working for his blue-collar brother-in-law.

CFO Gene McClary challenges GTX’s CEO strategy of employee cutbacks and questions the ethics of spending money to build new corporate headquarters while laying off employees. The CEO, his long-time friend, asserts that the deep cuts are necessary to increase profits, to increase the stock price and discourage a rumored hostile takeover of the company.

Later, it is determined that an additional round of layoffs is necessary. Woodward, a senior manager who, over the course of 30 years, had risen from the factory floor to the corporate offices (a decidedly rare accomplishment), is also fired. When McClary demands that senior HR manager Sally Wilcox, who is also his mistress, rehires him immediately, she tells him that McClary too, is being fired. Woodward's life quickly falls apart as employer after employer tell him he is either too old to start a new career, or too old to do jobs that those half his age find difficult. Desperate he commits suicide in his garage by carbon monoxide poisoning.

Despite McClary's anger, he has become even wealthier but he feels guilty about his company ruining so many lives and, instead, would rather put people to work. Feeling the need for a change, he leaves his wife and starts his own business. Walker is the first person he hires. Walker arrives at the bare offices to help start a new business composed of many former GTX employees.

This case illustrates two points often made by Pfeffer. One, that downsizing seldom leads to a solution to the problem, but much more likely to another downsizing, and there is ample evidence on that subject (e.g., Pfeffer and Sutton, 2006). Second, of course, that this type of actions often leads to depression, suicides, addictions, and low morale.

“Margin Call” is probably the best-known film about this type of bitter business situations. The main characters in the play are employees of a powerful international investment bank. Part of the staff has been laid off, and an investment banker just being fired has suddenly discovered that the assets of the company were overvalued and were, in fact, almost worthless. It is a story related with the 2008 world crisis connected to the bankruptcy of Lehman Brothers. The characters show that the combination of lack of honesty, specially from the top but also with the participation in all levels of the organization and technical complexity extremely difficult to understand may easily lead to a complete disaster.

The film “The Wolf of Wall Street”, by Martin Scorsese presents the life of a famous broker, Jordan Belfort, who was breaking the law in as many instances as he can. The movie is possibly an excess caricature of a real-world executive, but this may be part of the movie appeal. It tries to explain the life and excesses of this millionaire self-made man that started selling ice-cream at the age of sixteen eventually ended up being part of this American dream of becoming millionaire with hundreds of millions of dollars, until going to court for fraud about how these millions had been generated. In the end, he committed fraud in many instances, as with money laundering, financial crimes, manipulation of markets, amongst others. Apart from all financial crimes, his life was similar to that of a rock star, full of excesses related to sex and drugs. The story was a reflection about how the type of life that is admired and aspired by many, in the end does not contain any long-term success in terms of own happiness and creating a common good for many. Models of success sometimes defeat oneself but also defeat all the rest, as create paths of nonsensical results, that go against the society that has uplift them.



“Sorry, we missed you!” puts into perspective the situation of today’s many people that will not find a job, except if it is something extremely demanding, actually inhuman. Ricky, the main character, is offered to become a self-employed deliverer. In order to accept that, he has to sell the family car, which his wife was using to be able to do her job of home care nurse, but he has no alternative, so he accepts. This wrecks his family life and he must do incredible efforts to meet the stats, as his tough boss says. Ricky is robbed and brutally assaulted while making his deliveries. While Ricky is in the waiting room at hospital, his boss phones him and explains that he is facing fines of over £1,000 as his scanner was destroyed during the robbery. The film ends as Ricky drives off to work, still greatly injured and in tears as his family beg him to not leave.

“Self-employed” deliverers have been a rather common phenomenon lately. They get some income determined by the only customer they have (in conditions of monopsony, therefore) and run the risk of not being hired by the monopsonist... for nothing! The monopsonist, thus, shakes off a big part of his risks at no cost.

“American Factory” is in fact a documentary, promoted by the Obamas. It shows how a GM factory was closed down at some point in time, and, later, a Chinese firm bought it to restart manufacturing of car glasses there. It hired many of the unemployed (because of the shutdown of the plant) people in the area, but at a salary that is less than half what they were making, and with working conditions that are much worse. Workers, besides, are sent to China to “learn” the efficient methods, which consist mainly in having much tougher conditions: no vacations, only one day a week free (if any!) lower salaries, strong discipline, and so on.

Finally, “The Social Dilemma” is another documentary about the web and how the social networks are often a trap to get information about yourself without yourself being aware of that. So, beware! If some web product is free, it is often that the product is you!

Overall, all these movies can be said to show the consequences of Stiglitz’s four policies of neoliberalism.

## **6. The Academic Literature**

All these types of situations are closely related with the study presented at the Stanford conference “Great Place to Work” (2017), by Pfeffer, based on his book “Dying for a Paycheck”. He analyzes the US approach to worker rights in relation with the EU approach in terms of worker rights and compares both frameworks estimating the costs savings in healthcare for US if it incorporated the EU rights, the amount being US\$ 42B.

This could be achieved by simply doing the following: providing job control, reducing work-family conflict, being fair to employees and providing social support at work. And more importantly avoiding lay-offs, as Pfeffer considers that layoffs “increase fear and stress, (and) do not lead to higher profits, productivity, stock price, innovation, or quality” (Pfeffer, 2018).

Closely related to that, we can find in the philosophy literature Michael Sandel’s “The Tyranny of Merit: What’s become of the Common Good”, in which he goes to one of the bases of neoliberalism, considering that the idea of merit is a new phenomenon mainly devoted to reinforcing the free-market approach. Even if merit in general can be praised as something good to encourage doing things better (and has to some extent been used for that purpose for a long time), there are flaws in its predominance, because to make the merit criteria for competition just it takes for granted that the initial starting conditions for everyone are similar enough. But this is not the case in many situations and reinforces the false idea that successful people often have of deserving their success in all instances, thus promoting what Sandel labels the “tyranny of merit”, where the logic behind is that the unsuccessful can be rightly blamed for not having enough merit or enough effort to achieve success.

Sandel argument emphasizes that not only conservatives, but perhaps even more the elites, put the equal opportunity paradigm and the reliance of the “rhetoric of rising” in the center, promising to citizens success if they work hard and play by the rules (Sandel, 2020, p. 67). Meritocracy is not that new, Sandel suggests it started around 1945, and in the end is more a rhetoric that has been created by the prosperous, to justify their wellbeing, which has created a condescending attitude toward the poorer or less successful citizens. This reasoning concludes that wealthy people have arrived at their results through effort and merit. But the people in the working class in many countries have become poorer in terms of wage gains and following other indicators as number of suicides, drug additions and alcoholism, as says Plattner (2021), when interpreting Sandel work. This impoverishing situation that creates dissatisfaction and populism is spread all over the globe, and it is not possible that the only reason is the loss of manufacturing jobs (look for instance countries as Peru or Philippines). Therefore, there must be a mix of economic, cultural and sociological factors that combine to generate it. Strong materialistic cultures, like the case of United States can be one of the strong motivators for the logic of merit. Alexis de Tocqueville’s judgment, as quoted by Sandel, reads “I

know of no country ... where the love of money has taken stronger hold on the affections of men, and where profounder contempt is expressed for the theory of the permanent equality of property.” So perhaps this might explain the logic of merit creation in the United States.

As mentioned, from Sandel’s perspective, a society that accepts merit as the logic of deserved achievement and progress generates condescending attitudes toward the less successful and an insufficient regard towards the common good of all members. This then generates a tyranny not about meritocracy but of merit, which is then linked to the results that when they are not good it is because they are not deserved. Then this means that people develop self-pride and consider their talent to be deserved to a great extent. In fact, some of these abilities may come without effort as someone is born with or without them without always being part of generating them in a first place. Sandel considers that the notion of superior ability or harder work deserves greater recompense is mistaken (Plattner, 2021). Sandel uses Rawls reasoning that “the character of someone depend to a great extend upon the fortunate family and social circumstances for which he can claim no credit” (Sandel, 2020, p. 130). Therefore “social and economic inequalities are to be arranged so that they are to the greatest benefit of the least advantaged” which means that as individuals do not deserve per se their natural talents, some of the benefits of using them should be collectivized and redistributed to improve the actual situation of the poorer to increase the common good. Then if merit cannot be used to create a just distribution of rewards as the sole criterion, it still remains unanswered “why there is an existing widely held conviction that what people earn should reflect what they deserve” (Sandel, 2020, p. 134). This view is strong not only in United States, in which people considers hard work the most important factor to prosper and go ahead in life. But not only the US have come to this prevalent criterion, it has spread around in many other countries that adopt it and become competitive market societies. So, the thought that money is deserved out of hard work has spread and prevails as the logic of incentives and rewards.

One of the limits of merit criteria of deserving what is earned out of the hard work is obvious in cases where competition is unfair. Which has to do with the Rawls point that not everyone is endowed with the same skills and origins.

Sandel arguments however not only state that the initial competition may be unfair, but consider that meritocracy’s unfairness lies not only on this failure to level the playing

field but in the standard of merit itself that promotes the culture of striving and sorting: even if we could achieve equal opportunity for all, allocating results based on talent and effort can be considered still unjust. Moreover, Sandel focuses more on the harmful psychological effects of this merit-based issue rather than on the injustice that it represents. Sandel states that “the more we think of ourselves as self-made and self-sufficient the harder is to learn gratitude and humility” (Sandel, 2020, p. 14), and this jointly comes with the ones that are not successful that they feel denigrated and this “erodes their social standing and esteem” (Sandel, 2020, p. 29). In the end this places cooperation out of the scheme because this is no incentive to help the ones with less success, apart from making them blame for it. This excess of blame on the part of the less successful people in the end promotes them to be angry and this is a field that easily allows populism to be generated and to grow. Of course, it is difficult for a society to avoid fierce competition for the top: human passions cannot be possibly eradicated, as they have been encouraged for so long.

Sandel is advancing a debate on inequality that is now in the center of many discussions as the model that started after the Cold War, when the free markets logic was the one purportedly believed to generate freedom and prosperity of individuals has been seen falling short of doing so. Justice of capitalism cannot be defended straight away as results prove it is not a reality. So, it seems that a new era starts in which many people are going to complain, and defenders of free market seem not to have enough reasons to persuade people that current capitalism is not unjust.

The power of top management in big companies has increased over the last years to a great extent. Companies have grown and business growing is considered as the main objective that has been widely embraced by companies and people of very different origins, beliefs, and political inclinations. In many industries the tendency has been to promote oligopolies and monopolies, the banking industry being a very good example of that. In Catalonia there were 17 banking entities, and most of them have been forced to be absorbed by other banks. In Spain, the banking sector is now dominated by an oligopoly of four entities: the middle-sized banking entities that flourished in the “Golden Era” have now all but disappeared.

The solution to this problem cannot be based on economic reasoning approaches, since that mainly happens because all the reasoning is based on looking too tight into the economic side of the motivations. We should go out of this type of reasoning to find potential solutions.

In a book of Leigh Branham, he has pointed out the seven hidden reasons employees leave companies, and the reason behind usually is not economic at all, but of other type (Branham, 2012). In general the reasons considered have to do with limited growth and advancement opportunities, promotions and departments not working together—which means unfair or inefficient internal promotions, so people do not hear about them for long time—, posts being tailored to one employee (which means favoritism), hiring from outside instead of having internal promotions, directly pointing at unfairness of favoritism, politics and favoritism, family and work, gender discrimination and insufficient training (not being able to take advantage of training opportunities).

This means that people are four times more likely to leave a job because they think something is bad for them within the firm than because they are tempted for an outside opportunity. Yet most managers blame employee turnover on the lure of other companies, even when the real factors are well within their control (Sturt, 2013).

To solve to a great extent these problems, all stakeholders should receive both in quantitative and qualitative terms something proportionate to their contributions. The logic behind this is not be based in purely economic terms or extrinsic materialistic motives but on humanistic arguments based on a wide conception of the motives human beings have and introducing the concept of justice in managing organizations.

Justice should be incorporated as the main criteria when managing relationships, information, distributions, and procedures in organizations. And this cannot be simply an economic based justice criterion as it is the case of considering the market price as the fairest one. When we talk about justice, we propose a comprehensive set of justice criteria that incorporate all the elements inherent to any kind of distributions, both, tangible (like salaries and bonuses), and intangible (like recognition). But also, apart from the distributions, the need for justice is also unavoidable in relationships, information, and procedures. That means that justice in managerial contexts incorporates all justice dimensions, in both, formal and informal management control systems. This relationship between management control systems and justice has been shown in the research of Cugueró-Escofet and Rosanas (2013), in a theoretical paper developing the direct implications of justice in creating greater goal congruence between parties and the organization (Cugueró-Escofet & Rosanas, 2013). In this research, maximum goal congruence results in organizations that implement management control systems with the requirements of both formal and informal justice. Meaning that, when justice is set up

into the formal controls and also into the managerial controls exerted by managers, this increase the interest alignment between the participants and the organizations, which means people are willing to cooperate together to achieve organizational goals, as they also believe these goals are aligned to a great extent to their own goals.

Putting justice in the center has been shown to create sustainable human resource management (Cugueró-Escofet, Ficapal-Cusí, & Torrent-Sellens, 2019). In their paper, they put forward the idea that organizational justice is in the center of creating voluntary knowledge sharing that enhances sustainability over time. Once organizational justice is in place, people are more willing to share their knowledge, as they perceive they are treated fairly, so there is a long-term relationship in place that glues the organization and increases its chances of success. Also, organizational justice and trust have shown in some research to be close to each other in a close cause-effect loop (Cugueró-Escofet, Fitó Bertran, & Rosanas, 2019). In their research, the key to generating long-term organizations is achieving a minimum level of goal congruence, (i.e., the alignment of interest between the organization and people involved) generating at the same time perceptions of fairness. In this research trust is a consequence of informal justice, and together with formal and informal justice increase goal congruence and perceptions of fairness. Therefore, trust is both a consequence of justice and a generator of the overall perceptions of fairness.

But justice for what? Justice, as one of the main Aristotelian virtues (Aristotle, 2009), is seen as necessary to arrive to the final objective of human happiness. People are in the world to become happy, which is the general end of human beings, from Aristotle's point of view. But this objective is not achieved easily and at once, it is a state of completeness and fulfillment that requires to govern ourselves to build a virtuous character. So, in the end, virtues and their development are means to meet the final human end, which, as stated, is happiness. When companies are focused on relationships to guarantee coordination to achieve common goals, the virtue necessary to be incorporated is justice, and this virtue is to generate just processes and results for all involved aiming at making them happier over time.

Happiness itself has many benefits as by-products. At the end of the day, it is correlated with many organizational variables linked to productivity, as people that feel good tend to go for the extra mile, and in general are more productive (Oswald et al., 2015). This does not make happiness worth per se but there is empirical evidence showing that generating happiness among people ends with a win-win relationship between the

organization and its employees. Caring about employee's happiness is then good for the organization, as people tend to work in a healthy long-term disposition that increase their productivity. Of course, it becomes necessary that companies concentrate on happiness as the objective, and even to some extent to forget about the physical or financial results, because this is the way of creating a long-lasting increase in results. Results come after focusing on the right objectives, rather than focusing on the results themselves. Even if research has attempted to measure happiness using proxies like family balance, supportive working environments and caring for people wellbeing, we understand that happiness is a concept that cannot really be measured as it corresponds to an internal state of fulfillment and positive evolution and matureness of character. But in the end these proxies have served to put happiness in the center of business and to create fair places to work as they generate happiness amongst employees.

Other studies focused on how organizational performance is positively related to creating a good company climate, which in the end is also a proxy for employee happiness. Company climate is a complex construct that involves aspects related to employee well-being, like concern for employee welfare, skill development, reflexivity, innovation and flexibility and performance feedback, and all of these are linked to productivity increment, among other variables (Patterson et al., 2004). Of course, proxies of happiness can be job satisfaction and organizational commitment, and these are also positively correlated with productivity in that study.

In general, the happy-productive worker thesis has been studied in a paper published in 2008, and results conclude that both happiness at the trait level and at the state level are positively correlated with productivity. This means that in a trait level, happy people are more productive, and in a state level, people were more productive when they were happier (Zelenski et al., 2008). This study also links happiness with some of its strongest indicators, namely, job satisfaction, quality of work life, life satisfaction and positive affect.

However, and since a long-term measure of company success to be used instead of productivity is firm value, some studies focused on measuring how job satisfaction is correlated with firm value. These types of studies allow the incorporation of the costs of job satisfaction, as the measure of success is at the company level instead of being at the employee level, meaning that is a more comprehensive measure of organizational success (Edmans, 2012). So, it seems that for companies is good to promote job satisfaction as

costs make it worthwhile at the company level, when firm value is measured and increases. The focus on sustainability, in the three dimensions, (economic, social and environmental) makes firm value a more suitable proxy to see that happiness is worth in the long-term.

## 7. Possible Lines of Solution to the Current Problems

We have attempted so far to show some of the reasons that make us angry, in response to the Kwak question quoted at the beginning of the paper. These reasons create a lot of unhappiness have important cultural roots that go well beyond the legal system. Thus, the economic solutions to the problem like those proposed by Atkinson, will not solve it in its entirety, because an important part of the problem is what happens within the firms, and the proposals of Atkinson, Piketty, and other economists do not get into there. We are dealing with very complex problems and a solution to them cannot be simple.

Nevertheless, we would like now to attempt to outline the major guidelines that a solution would have to have.

1. First, we must promote a cultural change. Neoliberalism is not simply an economic theory that is value-free. Instead, there are some important values at the root of its approach. Namely, the “laissez-faire” postulate is based on the tenet that self-interest is good and that by everyone promoting self-interest we could achieve a social optimum. This is simply false. *Enlightened* self-interest may achieve a social optimum, but short-term self-interest and enlightened self-interest may be completely different things: thinking about the long run in a way that does not harm unjustly other people and thinking of short-run self-interest without constraints may go in opposite directions or be (at best) orthogonal.
2. Second, it is a terrible mistake to think of management as a toolbox whose tools that can be readily applied without having to exert any judgement. On the contrary, practical wisdom, (*phronēsis*, in the original Greek word) is absolutely needed for any kind of complex decision (Cugueró-Escofet & Rosanas, 2020). Unfortunately, the last 40 years or so have gone in the opposite direction.
3. Justice must become an important criterion in any management decision. If a decision is perceived as being just by all people affected (employees and customers mainly, but including other stakeholders as well), it will create no anger or mental health problems; and at the same time, it will be “right”. In fact, in the



classical Greek philosophy, “dikaios”, (δίκαιος) meant at the same time “just” and “right”. A right decision is thus a just decision.

4. All problems have aspects that cannot be quantified, or they cannot even be clearly expressed in words. That is why the concepts of “informal organizations”, “informal control systems” or “informal justice” are important for decision-making in any organization. Informal justice is particularly important: any formal system that is just but is applied unjustly (with unjust informal justice) leads to an organization that may not have goal congruence between its members and the organization itself (Natàlia Cugueró-Escofet & Rosanas, 2013).
5. A particularly dangerous tool for modern management is the “Balanced Scorecard”, or any set of indicators (“KPI’s”, in the fashionable acronym often used) an even more if they have attached an incentive formula. An incentive on a KPI implicitly indicates that what is “right” is any action that increases the value of the KPI; and this is always false for any minimally complex problem. Then, the incentive formula pushes people in the direction of doing something explicit instead of doing what they think is right (Cugueró-Escofet & Rosanas, 2017; Rosanas & Velilla, 2005). If employees do what they think is right and are penalized because this does not increase their KPI, the employee is being treated unjustly. A KPI plus judgement may be better than nothing, but a KPI alone is typically worse than nothing.

## **8. Conclusion**

The last 40 years have seen a transformation of the economy and of the management methods, in a direction of laissez-faire and self-interest that has created anger, distress and conflicts. The idea that the purpose of a corporation is to maximize the shareholder’s value was adopted as if it were the basic point of the management of the firm. In fact, it was wrong. Jack Welch, the great defender of shareholder value as CEO of General Electric, recognized in 2009 in the Financial Times that “this was a dumb idea”: shareholder value is a result, not an objective. So, things may be starting to change.

There are other symptoms of a change as well. The “Business Roundtable”, which brings together nearly 200 CEOs of major US companies, released two years ago an interesting paper on the purpose of companies (“The Purpose of a Corporation”, August 2019). The content of the document says virtually nothing new; what is new is that this “Roundtable” says it, because precisely, as they themselves acknowledge, they had always said the

opposite. That is, they had said that companies existed primarily to serve their shareholders; and now they say they have a fundamental commitment to all their “stakeholders”.

Of course, these are only words, and the practice may be different. Surely, it will take time to change the culture of the elite governing the firms; but this may be a symptom of the beginning. To make it operational takes more than words. The “mission, vision and values” statements that many firms publish are often only purportedly beautiful words that have no effect on every day’s decisions. That is why it is important, we believe, that we analyze the different reasons that have led to the current situation, where there are serious conflicts in different countries and health problems that demand a solution. Also, we have provided the main direction of the change that is needed.

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