

## An narrative review of value chain financing on the profitability of edible oil in South Africa

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### ARTICLE INFO

#### Article history:

Received 28 October 2023

Received in rev. form 12 Jan 2024

Accepted 24 January 2024

#### Keywords:

Value chain financing, profitability, edible oil, agricultural value chain and financial services.

#### JEL Classification:

G14

### ABSTRACT

*The objective of this review was to look at the impact of agricultural value chain financing on the profitability of edible oil in South Africa. A historical review's aim is to find all narrative evidence which fits the pre-specified eligibility requirements to respond to a particular study question or hypothesis. The research used a historical narrative review as its analysis method. This included compiling and analysing more than 60 online resources relating to various and relevant the value chain financing on profitability from several past research. The research concentrates on some papers that looked at the impact of agricultural value chain financing on profitability, both nationally and internationally. Exploratory studies on the agricultural value chain financing, published from 2012 to 2022, were evaluated. According to the findings, just one paper failed to demonstrate an important association between agricultural value chain financing and profitability, whilst the others showed that agricultural value chain financing had a substantial effect on profitability. However, none specifically addressed the oil industry, indicating the necessity for narrative research to examine the link among agricultural funding and the profitability of the South African edible oil industry.*

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## Introduction

Around the globe, agriculture is undergoing significant, quick-moving transformations. South Africa's economy is based on agriculture, which directly contributed 2,43% of the GDP, whereas industry generates for 24.46 percent and 62.75 percent of total value added, respectively in 2022 (Muller, 2022). The systemic changes usually have a significant impact on these nations' jobs, income production, risk assessment, decreasing poverty rates, and welfare of farm dwellers (Kouwenhoven et al., 2012). Even though agriculture is the cornerstone of the economies of both South Africa and all Africa continent (Robinson et al., 2016). The basic character of output and the low average savings rate have left south African agriculture with insufficient support. Furthermore, the majority of smallholders are unable to access formal banking services because of elevated interest rates and transaction fees (Deloof, 2003). Although cooperatives along with savings and credit groups operate by rural communities, arranged the farmers organisations are offering financing to producers and rural entrepreneurs, these organisations typically have insufficient funds to even meet the needs of their members. In addition, they have very little room to grow their reach or their range of offerings in a manner that is fiscally viable (der Merwe et al., 2005).

Moreover, because these loans are very seldom suited to the farming industry, do not come with integrated technology support, and are rarely concerned with the type or possibilities of the harvest being cultivated by the client, these types of organisations usually don't have adequate funding to respond even to the basic requirements of their participants, and thus possess extremely little ability for expanding their range of activities or services in a financially sustainable approach (Eyes et al., 2001). Value chain financing is "a money transfer to different links of the value chain, between many these connections, in hopes of enhancing the profitability and

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<https://doi.org/10.20525/ijrbs.v13i1.2984>

competitive nature, to minimize risk inside the chain, as well as to encourage the growth of the chain," as compared to standard funding of a particular segment of the market structure (Kumar and Sharma, 2011).

Value chain financing (VCF) is described as "the movements of funds to and among the various nodes inside a value chain" by Larsson (2018). The strategy gives chain members more access to the relevant market financing while placing less importance on security (Derila et al., 2020). The intertwining of activities enables automated loan repayment through transaction profits in the marketplace. Unless there is a clear connection to the value chain, value chain financing ought not to be mistaken with conventional financing from financial institutions like banks (Mazhar et al., 2022).

The supply of materials, manufacturing, trade, refining, and consuming are examples of a value chain (Derila et al., 2020). Value chain financing may be used in a variety of industries, including manufacturing as well as agriculture (Miller and Jones, 2010). The efficiency of individuals who provide and require farming or industrial financing can be increased by becoming more aware of value chain financing (Mofolo, 2018). By trying to identify funding requirements for value chain reinforcing, customising investment instruments to participants' necessities, lowering transaction costs through the direct discount debt payments and offering financial services, and utilising value chain links and chain understanding to reduce risks of the chain and its partner organisations', it can enhance the quality and effectiveness of value chain financing (Muller, 2022).

A lot of people require agricultural credit since it is necessary for producers, distributors, manufacturers, and purchasers to have financial resources to run and expand their operations. On the supply side, meanwhile, lenders frequently have trouble keeping their risks and costs in check when financing agriculture, which causes a significant lack of suitable funding (Muller, 2022). Banking companies frequently treat small scale farmers unfairly when lending to them (Quynh and Huy, 2018). Agricultural products are hazardous to finance because they have a poor inherent value relative to other goods and must be handled in huge quantities with limited margins of profit (Schmidhuber et al., 2022). This results in large agreements, which can put a dealer out of business if just one of them goes wrong due to crop degradation, farmer underperformance, port bottlenecks, local gluts, or non-payment from purchasers (Gibbon, 2013).

Traditional value chain financing, which involves spot trading activities and a significant number of small merchants and farmers, is pervasive in Africa's agricultural sector (Viskari et al., 2012). Even though the South African Government has taken significant strides in increasing credit availability, the vast majority of small-scale and beginning producers still lack financing that is available at reasonable rates (Viskari et al., 2011). Government involvement in value chain financing have encouraged efforts to develop economic markets in the South African edible oil industry (Yang et al., 2014). As a result, the purpose of this article is to examine how value chain financing impacts the profitability of the oil sector. The findings indicate a connection between various interventions and value chain financing and money (Ponsian et al., 2014). The study reveals a connection between different strategies and value chain financing and value chain effectiveness. Other researchers will profit from this work by using it as a point of reference to conduct comparable studies and by completing certain of the gaps that have been identified in previous relevant research.

This study aims investigate the impact of agricultural value chain financing on the profitability of Edible oil in South Africa.

## **Literature review**

### **Theoretical and Conceptual Framework**

This study was inspired by investment theory. Dodd (1922) pioneered value investing. It was additionally investigated by classical economists including Keynes (1936) and Hayek (1939), who concentrated on capital labour and investment from the perspective of a business. Investing is the growth in capital stock over time. Yet, in this "Source of Nature of Capital and Income" and later "Theory of Income," he developed one of the earliest investing theories (Braun et al., 2007). While his theory was rudimentary and subject to a variety of hypotheses, he identified a quality project boundary. This investing boundary illustrates the highest return for an investment across particular periods of time, and it serves as the foundation for today's modern more common investment boundary concepts (Collis et al., 2004).

Such investment choices involve decisions such as constructing an additional plant, updating equipment, and so on, primarily from a performance perspective. The pace of investment is influenced by two distinct factors: risk and anticipated return (Derila et al., 2020). Satisfaction successfully decides whether or not investments will be considered for financial choices. It makes no difference how appealing the predicted return is; investment will not take place unless the risk of failure is acceptably low (Endiana et al., 2020).

#### *Conceptual framework*

There may be equity financing or debt financing in the value chain. Internal value chain financing occurs when input suppliers provide working capital loans to farmers, or when large companies fund market intermediaries (Muller, 2022). External value chain financing is activated through value chain interactions and processes. For example, banks extend credit to farmers based on contracts with trusted buyers or storage receipts from known storage facilities. According to Kouwenhoven et al. (2012) as this affects value chains and financial systems, financing in agricultural value chain financial should be viewed from the perspective of a broader context, which includes both the value chain itself and the market condition. A classic example of exterior Value Chain financing

may be seen in South Africa, where small fruit and vegetable producers can obtain bank financing for agrochemicals (Cao and Yu, 2018, Caron et al., 2018, Nguyen et al., 2016).

Before distributing the net revenues to the farmer group, the export market needs to pay the food producers through the bank, which deducts the regular loan instalments (Barrientos and Bobie, 2016). Integrated market systems, or chains, are gradually replacing fragmented production and marketing partnerships in the agribusiness sector (Mansoori and Muhammad, 2012). Multinational agribusinesses are progressively dominating the industry due to competition and the modernization of the farming industry, with increased vertical and horizontal connections or integration (Muller, 2022).

In addition, pushing the adjustments, which include tighter compliance, timeliness, and quality requirements, are the market and customer interests (Ma et al., 2022). Lenders inside the internal value chain evaluate all funds, including credit costs, against their overall productivity and profitability (Le et al., 2018). In their loan company, they could be ready to take on greater amounts of risk and loss as long as the earnings from the eventually results production offer an ethical approval level of interest (Nygaard and Bolwig, 2018, Saitone and Sexton, 2017).

Since these actions may be included into production activities and hence help both production and payback goals, internal value chain borrowers might extra readily endure the trading expenses of stringent customer security check, tracking, as well as enforcement mechanisms (Roldan et al., 2013). They differ from money provided by financial institutions in that they allow for a "two-way street" between borrowers as well as lenders (D'heur, 2014, Omomowo and Babalola, 2021). Participants in the value chain depend on one another such as a loan as well as repayment arrangements, product promotion, and product manufacture (Rashid et al., 2013). Lenders offer loans to help businesses achieve their goals in the product market, such supplying enough raw materials for processing and trade (Lallana et al., 2021, Newton et al., 2011).

Value Chain lenders are regularly used by borrowers as input suppliers, marketing channels, and funding sources (Gordon et al., 2011). On this "two-way street," lenders should determine which one to loan to, where to assess their clients' achievement, or where to effectively recover their lending (Rezaei and Pourali, 2015). In addition, borrowers should determine if lenders will uphold their half of the bargain, including timely delivery of promised inputs, purchase of the commodity upon harvest, and timely and equitable payment (Roldan et al., 2013, Premanandh, 2011, Wang et al., 2023).

Value Chain analysis may be used to ascertain how these connections between the investment and business markets impact the accessibility of Value Chain financing (Islam et al., 2012). The set of actors (personal, governmental, and network operators involved) and the sequence of value-adding actions that take a product from the point of manufacturing to the ultimate customer are referred to collectively as the value chain by Adu et al. (2021), Tseng et al. (2021) and Bui et al. (2021). They might be viewed as a collection of agricultural flows and processes that take place from farm to table.

According to Kunadu et al. (2018) and Schröder et al. (2020) empirical research, value chain analysis is an evaluation of the performers and variables affecting an industry's performance, as well as interactions among attendees, to identify the barriers prevent increased productivity and innovativeness of a sector, as well as how such obstacles could've been resolve. Kunadu discovered that the goal of value chain finance is to discuss the possibilities and restrictions that exist both inside and outside the value chain (Vahid et al., 2012). Value chain financing is the movement of investment products to and/or via value chain players to solve but rather relieve guiding expansion restrictions (Makarani and Bineshian, 2013, Teo et al., 2019).

In an experimental study, Adu et al. (2021) and Sandoval et al. (2021) discovered that African value chain participants are more motivated by the need to enlarge marketplaces than by financial viability. The type and motivation of buyers for Value Chain financing are frequently varied. For example, traders frequently utilize funding like a purchasing facility, but feedback providers frequently use it as portion of a purchase's incentive plan (Husain and Alnefaee, 2016). It provides a method for financial organizations to reduce risk and costs associated with delivering financial services (Barrientos and Bobie, 2016, Reardon et al., 2019, Attard, 2021). Leading to a shortage of leverage or distribution costs, value chain financing provides a method for members to access financing that would otherwise not be possible. It can also provide a way to ensure a market for recipients like smallholder farmers or individuals who buy their goods (Muller, 2022).

## **Research and Methodology**

The research used a historical narrative review as its analysis method. This included compiling and analysing more than 60 online resources relating to various and relevant the value chain financing on profitability from several past research. This research explored internet databases for relevant research publications using the key phrases "Value chain financing", "profitability", "edible oil", "agricultural value chain", and "financial services." The search outcomes provided several previous research, totalling over 250. From this selection, around 60 sources containing the five key terms were chosen. The study was selected based on the requirements of (i) empirical research, (ii) profitability as a dependent variable, (iii) Value chain financing, edible oil, and agricultural value chain as independent variables along with (iv) theoretical research. The purpose of the research was guided by a rigorous investigation of all chosen value chain financing in relation to profitability. The explanation of this continues in the findings section, which was thoroughly evaluated. A comprehensive review of previous research provides a convincing argument for the relevance of value chain financing in connection to profitability.

## **Findings and discussion**

Gibbons et al. (2020) claimed that in Africa “Value Chain participants are pushed more by the ambition to develop markets than by the profitability of the investment”. The type and motivation of merchants for value chain financing are frequently diverse. For instance, market participants frequently use finance as a purchasing institution, whereas feedback providers frequently use it as part of a sales compensation strategic plan. For bank industry, it provides a look at to less danger along with cost in offering financial support. Value chain financing gives a means for the beneficiaries, including agricultural producers or people who purchase their goods, to obtain funding that may not be possible for representatives because of the absence of securities or the high cost of guaranteeing a loan. It can also be a means of guaranteeing a product marketplace.

Ojo and Ayanwale (2019) evaluated value chain financing in plantain production in Nigeria. These findings show that VCF has a positive effect as evaluated by net present value and net benefit, which are represented as both consumer and producer excess. This implies that VCF is a practical and advantage financing advancement for Nigeria's agricultural production. The findings have shown a decrease in persons participating in agriculturally based action as a consequence of the absence of value chain financing. This is a case of non-attraction brought on by reduced rewards. The value chain and trade facilitation can be strengthened to raise these lower margins.

Oberholster et al. (2015) looked at South Africa's food production finance from a value chain viewpoint. The findings showed that value chain competitiveness is favourably influenced by collaboration, risk assessment, commitment to quality, resource efficiency. The observed effectiveness of agricultural value chain financing in this study is favourably influenced by value chain productivity in a similar way.

Njoroge et al. (2019) showed no statistically significant correlation between the profitability of edible oil producers in Kenya and funding though the cash flow and raw materials. Roko and Opusunju (2016) found different outcomes, finding a meaningful correlation between both the value chain and the achievement of agroallied SMEs in Sokoto State. Additional results indicate that primary value chain activities have a substantial effect on the success of agro-SMEs in Sokoto State and secondary value chain activities have a massive effect on agro-SMEs in Kenya State. Empirical evidence from Kopparthi and Kagabo (2012) showed a direct correlation between Rwandan producers' levels of profit and output and their accessibility to value chain financial products and services.

In addition, Kunadu et al. (2018), Miklyaev et al. (2020) and Cooney (2021) claimed that value chains and financial systems, funding in agricultural value chain financial should be viewed from the perspective of a broader context, which includes both the value chain itself and the market condition. A classic example of exterior Value Chain financing may be seen in South Africa, where small fruit and vegetable producers can obtain bank financing for agrochemicals (Cao and Yu, 2018, Caron et al., 2018, Nguyen et al., 2016).

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## **Analysis on the Results**

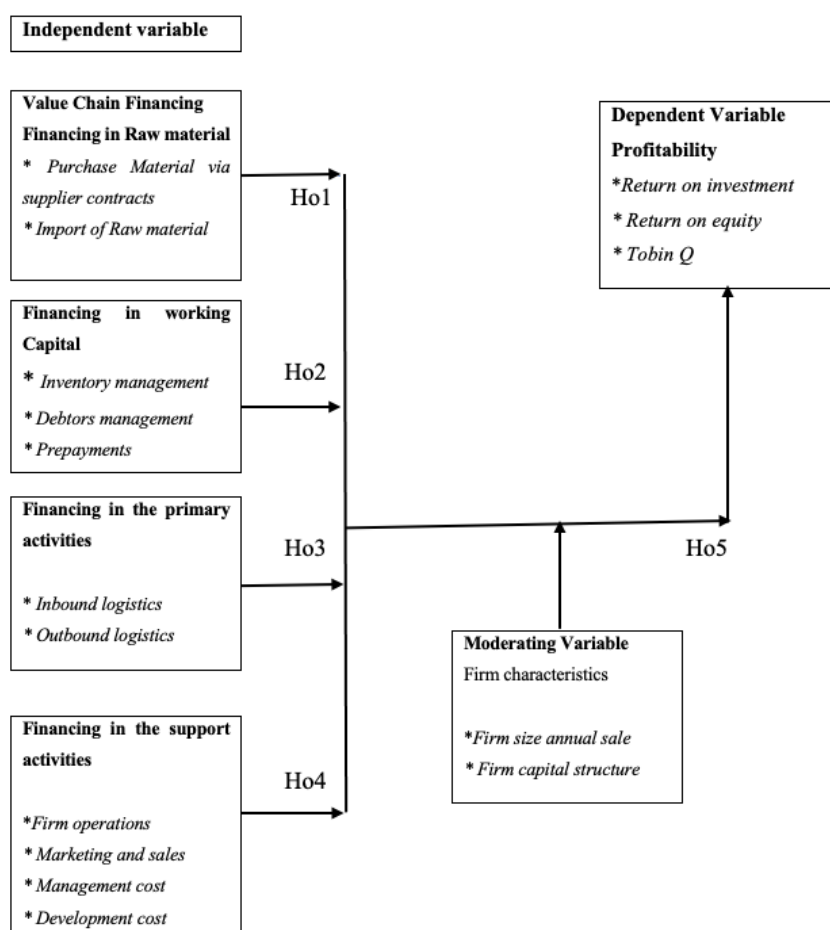
Despite the fact that farming is still one of the most important economic activities in developing countries, the lack of research on the agricultural value chain financing suggests that African farmers will continue to live in poverty because of the poor returns from the sector. Kopparthi and Kagabo (2012) found that value chain financing has a positive impact on profitability when evaluated by means of net present value and net benefit, which are demonstrated as both producer and consumer surplus. Moreover, the research only examined the effect of value chain financing on plantain producing. According to Larsson (2018), the agricultural value chain financing is significant in India since it has led to agricultural capital formation owing to low cost transactions, which has improved access to financial services among value chain participants.

Mazenda et al. (2022), who revealed that value chain financing influenced the success of agro-allied SMEs in Sokoto State, Nigeria, provided more evidence for this. Yet, the success of agro-related SMEs in Niger State is greatly influenced by secondary value-chain operations. The article's emphasis on Agro Allied Small and Medium Size Business gave it a broad reach. The research did not specify what the main tasks in the value chain they employed for their investigation entailed. In related research, Kopparthi and Kagabo (2012) observed that small producers in Rwanda's level of earnings and productivity are connected to finance for the value chain of agriculture. On the other hand, Njoroge et al. (2019) were unable to find a connection among the management of working capital strategies and value chain financing among Kenyan edible oil manufacturing firms. The multiplicity of deficiencies that were revealed due to the farmers' absence from the value chain suggests that not all aspects of the agricultural value chain financing were considered.

## **Conclusions**

The research confirms that there's a positive influence of agricultural value chain financing on profitability according to the theory and narrative evidence provided in the previous section, as well as the performance evaluation over the past 11 years, despite the fact that similar research has not been done in the oil sub sector. Value chain financing differs from one product to another and from nation to nation. This suggests that transferring value chain financing from one nation to another may be challenging. Furthermore, it is useful unattainable to dictate the value chain of one product to another due to different players who participate in the chain. Since it concentrates on oil cultivation in South Africa, this research problem is distinct. The research supports the idea that value chain financing strategies - in this example, the sort and funding mechanism - have an effect on profitability. On the surface, all of the pertinent research that were assessed were deficient in both structure and contents. Few research has indicated how the sort of value chain, whether direct or indirect, results in increased value chain financing.

It is challenging to determine if funding inside the chain might produce better profitability than external financing obtained indirectly through value chain financing. On the opposite hand, despite the presence of goods to enhance the efficiency of chain players, research has been unable to pinpoint which value chain financing method has led to greater profitability. These shortcomings suggest that further research about value chain financing and profitability needs to be done. As a result of the failure of previous research to conceptualise value chain financing and profitability, these findings suggest a conceptual framework centered on these concepts, as shown in Figure 1.



**Figure 1:** Suggested Conceptual Framework

The conceptual framework clarifies the connection among the variables and help to analyse they influence one another. The concept of value chain financing identifies the various aspects of the value chain where finance is considered necessary. Financing is needed at four phases of the value chain: (1) Raw Material, which is determined by the ratio of raw material acquired to charge of products sold; (2) Working Capital, which evaluates Current ratio; (3) Primary activities, which assesses the ratio of financing in inbound logistics, outbound logistics, activities, advertising, sales as well as maintenance to Overall Investment; and (4) Support activities, which evaluates the ratio of financing in Firm operations, financing in development as well as public relations. Every phase is regarded as a separate independent variable. Finance is needed by one or more participants of the value chain at each phase. To understand each phase better, it can be pitted into variables that can be determined using data from the manufacturing sector. A dependent variable in the research is profitability as determined more by ratio of return on investment, return on equity as well as Tobin Q. In addition, this research suggests that regulatory authorities apply the study's outcomes for compliance and enforcement objective. Since most South Africans intend to achieve sustainable (Agriculture generates the required yearly employment) growth under Vision 2030, they must enact a set of rules and regulations that support efficient and productive ways to construct and sustain a governance economy for this purpose. Therefore, South African governments should set laws and regulations enforcement methods for implementing edible oil guidelines, which could increase raw material production.

## Acknowledgement

**Author Contributions:** Conceptualization, Methodology, Data Collection, Formal Analysis, Writing—Original Draft Preparation, Writing—Review And Editing by authors. All authors have read and agreed to the published the final version of the manuscript.

**Institutional Review Board Statement:** Ethical review and approval were waived for this study, due to that the research does not deal with vulnerable groups or sensitive issues.

**Data Availability Statement:** The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy.

**Conflicts of Interest:** The authors declare no conflict of interest.

## References

- Adu, G. B., Badu-Apraku, B., Akromah, R., Amegbor, I. K., Adogoba, D. S., Haruna, A., ... & Wiredu, A. N. (2021). Trait profile of maize varieties preferred by farmers and value chain actors in northern Ghana. *Agronomy for Sustainable Development*, 41, 1-15.
- Anane-Taabeah, G., Quagraine, K., & Amisah, S. (2016). Assessment of farmed tilapia value chain in Ghana. *Aquaculture International*, 24, 903-919.
- Attard, D. (2021). Study of the relationship between profitability ratios and stock prices: evidence from the technology sector from Nasdaq composite index. University of Malta.
- Barrientos, S., & Bobie, A. O. (2016). Promoting gender equality in the cocoa-chocolate value chain: Opportunities and challenges in Ghana. *Global Development Institute Working Paper Series*.
- Brau, J. C., Fawcett, S. E., & Morgan, L. (2007). An empirical analysis of the financial impact of supply chain management on small firms. *The Journal of Entrepreneurial Finance*, 12, 55-82.
- Bui, T. (2020). Supply chain finance, financial development and profitability of real estate firms in Vietnam. *Uncertain Supply Chain Management*, 8, 37-42.
- Bui, T.-D., Tsai, F. M., Tseng, M.-L., Tan, R. R., Yu, K. D. S., & Lim, M. K. (2021). Sustainable supply chain management towards disruption and organizational ambidexterity: A data-driven analysis. *Sustainable Production and Consumption*, 26, 373-410.
- Cao, E., & Yu, M. (2018). Trade credit financing and coordination for an emission-dependent supply chain. *Computers & Industrial Engineering*, 119, 50-62.
- Caron, P., Ferrero Y de Loma-Osorio, G., Nabarro, D., Hainzelin, E., Guillou, M., Andersen, I., ... & Bickersteth, S. (2018). Food systems for sustainable development: proposals for a profound four-part transformation. *Agronomy for Sustainable Development*, 38, 1-12.
- Collis, S. S., Joslin, R. D., Seifert, A., & Theofilis, V. (2004). Issues in active flow control: theory, control, simulation, and experiment. *Progress in Aerospace Sciences*, 40, 237-289.
- Cooney, P. (2021). Paths of Development in the Southern Cone: Deindustrialization and Reprimarization and Their Social and Environmental Consequences. Springer Nature.
- D'Heur, M. (2014). Shared value chain: Profitable growth through sustainable value creation. In *Sustainable Value Chain Management: Delivering Sustainability through the Core Business*. Springer.
- Deloof, M. (2003). Does working capital management affect the profitability of Belgian firms? *Journal of Business Finance & Accounting*, 30, 573-588.
- Der Merwe, V., Roux, M., Badenhorst, J., & Britz, T. (2005). Fungal treatment of an edible-oil-containing industrial effluent. *World Journal of Microbiology and Biotechnology*, 21, 947-953.
- Derila, C. P., Evana, E., & Dewi, F. G. (2020). Effect of environmental performance and environmental costs on financial performance with CSR disclosure as intervening variables. *International Journal for Innovation Education and Research*, 8, 37-43.
- Dodd, W. (1922). *The Nature of the Judicial Process*. By Benjamin N. Cardozo. (New Haven: Yale University Press, 1921, Pp. 180.). *American Political Science Review*, 16, 710-711.
- Endiana, I., Dicriyani, N. L. G. M., Adiyadnya, M. S. P., & Putra, I. (2020). The effect of green accounting on corporate sustainability and financial performance. *The Journal of Asian Finance, Economics and Business*, 7, 731-738.
- Eyres, L., Sherpa, N., & Hendriks, G. (2001). Avocado oil: A new edible oil from Australasia. *Lipid Technology*, 13, 84-88.
- Gibbons, M. J., Fan, M. D., Rowhani-Rahbar, A., & Rivara, F. P. (2020). Legal liability for returning firearms to suicidal persons who voluntarily surrender them in 50 US states. *American Journal of Public Health*, 110, 685-688.
- Gordon, A., Pulis, A., & Owusu-Adjei, E. (2011). Smoked marine fish from Western Region, Ghana: A value chain assessment.
- Hayek, F. A. (1939). The economic conditions of interstate federalism. *New Commonwealth Quarterly*, 5, 131-149.
- Husain, S., & Alnefaee, S. (2016). The Effects of Working Capital Management on Profitability of Firms: Evidence from Agriculture and Food Industry of Kingdom of Saudi Arabia. *Journal of Emerging Issues in Economics, Finance & Banking*, 5.
- Islam, M. M., Bhuiyan, M. N. K., & Harun, M. Y. (2012). Development of value chain: An effective way of profitable duck farming in haor areas of Bangladesh. *INFPD Good Practices of Family Poultry Production Note No. 4*.
- Keynes, J. M. (1936). The supply of gold. *The Economic Journal*, 46, 412-418.
- Kopparthi, M. S., & Kagabo, N. (2012). Is value chain financing a solution to the problems and challenges of access to finance of small-scale farmers in Rwanda? *Managerial Finance*, 38, 993-1004.
- Kouwenhoven, G., Reddy Nalla, V., & Lossonczy Von Losoncz, T. (2012). Creating sustainable businesses by reducing food waste: A value chain framework for eliminating inefficiencies. *International Food and Agribusiness Management Review*, 15, 119-138.
- Kumar, A., & Sharma, S. (2011). Potential non-edible oil resources as biodiesel feedstock: An Indian perspective. *Renewable and Sustainable Energy Reviews*, 15, 1791-1800.
- Kunadu, A. P.-H., Holmes, M., Miller, E. L., & Grant, A. J. (2018). Microbiological quality and antimicrobial resistance characterization of *Salmonella* spp. in fresh milk value chains in Ghana. *International Journal of Food Microbiology*, 277, 41-49.

- Lallana, F., Bravo, G., Le Treut, G., Lefevre, J., Nadal, G., & Di Sbroiavacca, N. (2021). Exploring deep decarbonization pathways for Argentina. *Energy Strategy Reviews*, 36, 100670.
- Larsson, S. (2018). The sunflower value chain: A case study in Babati, Tanzania.
- Le, H.-L., Vu, K.-T., Du, N.-K., & Tran, M. D. (2018). Impact of working capital management on financial performance: The case of Vietnam. *International Journal of Applied Economics, Finance and Accounting*, 3, 15-20.
- Ma, W., Abdul-Rahaman, A., & Issahaku, G. (2022). Welfare implications of participating in agri-value chains among vegetable farmers in Northern Ghana. *Agribusiness*.
- Makarani, K., & Bineshian, Z. (2013). An empirical study on the relationship between working capital management and profitability: A case study of Mehregan Sangesar Company. *Management Science Letters*, 3, 771-776.
- Mansoori, D. E., & Muhammad, D. (2012). The effect of working capital management on firm's profitability: Evidence from Singapore. *Interdisciplinary Journal of Contemporary Research in Business*, 4.
- Mazenda, A., Obi, A., & Masiya, T. (2022). The Contribution of the Small-Scale Agricultural Sector into South Africa's Food Value Addition Agenda. *The Palgrave Handbook of Africa's Economic Sectors*. Springer.
- Mazhar, R., Xuehao, B., Viira, A.-H., Stamenkovska, I. J., Nacka, M., Azadi, H., & Wei, Z. (2022). Farmers' Participation in Modern Supply Chains: The Case of Mandarin Profitability in Punjab-Pakistan. *Horticulturae*, 8, 1041.
- Miklyae, M., Jenkins, G., & Shobowale, D. (2020). Sustainability of agricultural crop policies in Rwanda: an integrated cost-benefit analysis. *Sustainability*, 13, 48.
- Miller, C., & Jones, L. (2010). *Agricultural value chain finance: tools and lessons*. Practical Action Publishing.
- Mofolo, L. (2018). Financing agriculture for a more profitable rural economy. CTA.
- Muller, C.-L. (2022). The effect of the Russia-Ukraine conflict on world edible oil prices. *Oilseeds Focus*, 8, 43-47.
- Newton, A. C., Flavell, A. J., George, T. S., Leat, P., Mullholland, B., Ramsay, L., Revoredo-Giha, C., Russell, J., Steffenson, B. J., & Swanston, J. S. (2011). Crops that feed the world 4. Barley: a resilient crop? Strengths and weaknesses in the context of food security. *Food security*, 3, 141-178.
- Nguyen, H.-C., Tran, M.-D., & Nguyen, D.-T. (2016). Working capital management and firms' profitability: Evidence from Vietnam's stock exchange. *International Journal of Economics and Finance*, 8, 55-62.
- Njoroge, E. M., Muhoho, J., & Kibuine, M. (2019). Influence of customer relationship management system on the performance of deposit taking SACCOs in Nairobi County. *International Academic Journal of Human Resource and Business Administration*, 3, 179-202.
- Nygaard, I., & Bolwig, S. (2018). The rise and fall of foreign private investment in the jatropha biofuel value chain in Ghana. *Environmental Science & Policy*, 84, 224-234.
- Oberholster, C., Adendorff, C., & Jonker, K. (2015). Financing agricultural production from a value chain perspective: Recent evidence from South Africa. *Outlook on Agriculture*, 44, 49-60.
- Ojo, M. P., & Ayanwale, A. B. (2019). Value chain financing and plantain production in Nigeria: an ex-ante approach. *Financial Innovation*, 5, 1-15.
- Omomowo, O. I., & Babalola, O. O. (2021). Constraints and prospects of improving cowpea productivity to ensure food, nutritional security, and environmental sustainability. *Frontiers in Plant Science*, 12, 751731.
- Ponsian, N., Chrispina, K., Tago, G., & Mkiibi, H. (2014). The effect of working capital management on profitability. *International Journal of Economics, Finance and Management Sciences*, 2, 347-355.
- Premanandh, J. (2011). Factors affecting food security and the contribution of modern technologies to food sustainability. *Journal of the Science of Food and Agriculture*, 91, 2707-2714.
- Quynh, D. V. X., & Huy, N. H. (2018). Supply chain management practices, competitive advantages and firm performance: a case of small and medium enterprises (SMEs) in Vietnam. *Journal of Modern Accounting and Auditing*, 14, 136-146.
- Rashid, S., Tefera, N., Minot, N., & Ayele, G. (2013). Fertilizer in Ethiopia: An assessment of policies, value chain, and profitability.
- Reardon, T., Echeverría, R., Berdegue, J., Minten, B., Liverpool-Tasie, S., Tschirley, D., & Zilberman, D. (2019). Rapid transformation of food systems in developing regions: Highlighting the role of agricultural research & innovations. *Agricultural Systems*, 172, 47-59.
- Rezaei, M., & Pourali, M. R. (2015). The relationship between working capital management components and profitability: Evidence from Iran. *European Online Journal of Natural and Social Sciences: Proceedings*, 4, pp. 342-351.
- Robinson, T. P., Bu, D., Carrique-Mas, J., Fèvre, E. M., Gilbert, M., Grace, D., Hay, S. I., Jiwakanon, J., Kakkar, M., & Kariuki, S. (2016). Antibiotic resistance is the quintessential One Health issue. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 110, 377-380.
- Roko, L. P., & Opusunju, M. I. (2016). Value chain and performance in agro allied small and medium scale enterprise in Sokoto state, Nigeria. *International Journal of Business and Social Research*, 6, 08-19.
- Roldan, M. B., Fromm, I., & Aidoo, R. (2013). From producers to export markets: the case of the cocoa value chain in Ghana. *Journal of African Development*, 15, 121-138.
- Saitone, T. L., & Sexton, R. J. (2017). Agri-food supply chain: evolution and performance with conflicting consumer and societal demands. *European Review of Agricultural Economics*, 44, 634-657.
- Sandoval, R. C., Roche, M., Belausteguigoitia, I., Alvarado, M., Galicia, L., Gomes, F. S., & Paraje, G. (2021). Excise taxes on sugar-sweetened beverages in Latin America and the Caribbean. *Revista Panamericana de Salud Pública*, 45, e21.

- Schmidhuber, L., Hilgers, D., & Hofmann, S. (2022). International Public Sector Accounting Standards (IPSASs): A systematic literature review and future research agenda. *Financial Accountability & Management*, 38, 119-142.
- Schröder, P., Albaladejo, M., Ribas, P. A., MacEwen, M., & Tilkkanen, J. (2020). The circular economy in Latin America and the Caribbean. The Royal Institute of International Affairs, Chatham House: London, UK.
- Spiertz, H. (2012). Avenues to meet food security. The role of agronomy on solving complexity in food production and resource use. *European Journal of Agronomy*, 43, 1-8.
- Teo, L., Khong, R. W., & Pek, C.-K. (2019). Which is the better determinant for dividends in the Kuala Lumpur Composite Index-profitability or cash-flow? *International Journal of Business and Society*, 20, 1003-1021.
- Tseng, M.-L., Bui, T.-D., Lim, M. K., Tsai, F. M., & Tan, R. R. (2021). Comparing world regional sustainable supply chain finance using big data analytics: a bibliometric analysis. *Industrial Management & Data Systems*, 121, 657-700.
- Vahid, T. K., Elham, G., Khoshroshahi Mohsen, A., & Mohammadreza, E. (2012). Working capital management and corporate performance: evidence from Iranian companies. *Procedia-Social and Behavioral Sciences*, 62, 1313-1318.
- Viskari, S., Lind, L., Kärri, T., & Schupp, F. (2012). Using working capital management to improve profitability in the value chain of the automotive industry. *International Journal of Services and Operations Management*, 13, 42-64.
- Viskari, S., Pirttilä, M., & Kärri, T. (2011). Improving profitability by managing working capital in the value chain of the pulp and paper industry. *International Journal of Managerial and Financial Accounting*, 3, 348-366.
- Wang, C., Ren, J., & Liang, H. (2023). MSGraph: Modeling multi-scale K-line sequences with graph attention network for profitable indices recommendation. *Electronic Research Archive*, 31, 2626-2650.
- Yang, L., Takase, M., Zhang, M., Zhao, T., & Wu, X. (2014). Potential non-edible oil feedstock for biodiesel production in Africa: a survey. *Renewable and Sustainable Energy Reviews*, 38, 461-477.

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