### Title
The working capital management of vineyards in France: A quantitative and qualitative analysis

### I want to submit an abstract for:
Conference Presentation

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### Keywords
French vineyards, AOC Corbières, working capital management, inventories, wine value chain, profitability, panel data, interviews

### Research Question
How is the working capital managed by French vineyards? How does the working capital management impact the financial performance of these firms?

### Methods
Both quantitative and qualitative: First, we will use panel data regressions based on financial statements of over 600 French vineyards; Second, we will conduct interviews with some of them.

### Results
The working capital management (WCM) varies in function of wine regions. Individual vineyards have a more efficient WCM than cooperatives. For most of firms, Receivables are the highest part.

### Abstract
The important impact of working capital on the performance of companies has been widely demonstrated in the literature review (e.g., Aktas et al. 2015, Baños et al. 2014, Ding et al. 2013). However, we have not found any article on the wine sector though the working capital management is very important for vineyards, mostly due to high costs for wine store. Furthermore, our interviews with some wine producers in the south of France (AOC Corbières, Narbonne) show that inventories represent an important and difficult issue for them, mostly when
they have difficulties to sell their wines. From all these statements, we decide to investigate the working capital management (WCM) in the wine sector in France with a sample of more than 600 firms for which we can have financial statements. The WCM is measured by the Cash Conversion Cycle (CCC) proposed by Richards and Laughlin (1980) and developed by Shin and Soenen (1998). Overall, the CCC measures the length in terms of days from the moment when the firm pays for inputs and when they receive payments from customers. The CCC takes into account three elements of the working capital which are inventories, accounts receivable (from customers) and accounts payable (to suppliers). The lower the CCC, the more efficient the WCM is. We also further investigate the impact of the WCM on the profitability of vineyards with the latter measured by the return on asset ratio (earnings before interests and taxes, or EBIT, divided by the total asset). Other variables will also be used for control (such as size, growth, fixed assets...) in our panel data regressions. We will also account for the impact of the recent financial crisis and the origin region of the vineyards since we hypothesize that the terroir has a significant impact on the WCM and the profitability of wine firms. Finally, our empirical results will be completed by a qualitative study based on interviews with vineyards in the AOC Corbières. This important part helps us to better understand our results from the professional point of view and above all to make our study useful in practice.

The literature review on working capital management is quite large and well developed during the last decades. The pioneer work by Smith (1980) suggests the important role of working capital on the profitability, risk and value of firms. This study has been followed by others which confirm this finding, such as Jose et al. (1996), Fazzari and Peterson (1993), Shin and Soenen (1998), Wang (2002), Deloof (2003), Howorth and Westhead (2003), Garcia and Martinez (2007), Hill et al. (2010), Ek and Guerin (2011), Banós-Caballero et al. (2012), Bei and Wijewardana (2012), Lind et al. (2012), Ding et al. (2013), Kieschnick et al. (2013), Almeida and Eid Jr. (2014), Banós-Caballero et al. (2014), Enqvist et al. (2014), Aktas et al. (2015), Mun and Jang (2015), among others. Other studies investigate elements of working capital separately, such as Nadiri (1969) or Emery (1984) on accounts receivable; Blinder and Maccini (1991), Chen et al. (2005), on inventories; and Faulkender and Wang (2006), Buchmann et al. (2008), Bates et al. (2009), Denis and Sibilkov (2010), Gao (2014) on cash management, among others. In this study, we will focus on the literature analyzing the working capital management (WCM) and its impact on the profitability of firms. The articles that we have cited above tend to show the significant impact the WCM on the performance of firms. However, we have found no studies focusing on the wine industry. In this context, our article would extend this literature in analyzing the case of French vineyards. Furthermore, we have found no study using interviews to complete the empirical results. Our approach would thus allow extending the related academic literature review but also providing important information to winegrowers in the management of their working capital. Another point that we would like to underline is that most of the above-mentioned studies on the WCM do not identify the value chain of the studied industry, except for Lind et al. (2012), to the best of our knowledge. To our point of view, this is not appropriate because the value chain is determinant in the constitution of working capital of firms. That is why we choose to essentially base on the study of Lind et al. (2012) and apply it to our article. This means that we will first identify the value chain of the wine industry before analyzing the WCM.

Our methodology is twofold: quantitative (panel data) and qualitative (interviews). Based on a dataset of over 600 French vineyards and fixed-effect panel-data regressions, we will test five hypotheses.

Hypothesis 1: There is a positive relationship between WCM and profitability.

Hypothesis 2: The firm size and fixed assets have a significant impact on the WCM.

Hypothesis 3: Terroir has significant impacts on the WCM.

Hypothesis 4: The type of vineyards (individual or cooperative) has a significant impact on the WCM.

Hypothesis 5: The 2008 financial crisis has a significant impact on the WCM.

Our first results with the CCC analysis show that in most cases, the value of CCC is positive, meaning that the duration to get paid on inventories and receivables is higher than the duration to pay providers. There are some cases for which the value of CCC is negative (Picardie, Centre, Basse Normandie, Bourgogne, Lorraine, Alsace, Franche-Comté, Pays de la Loire). This means an efficient working capital management in these regions because inventories plus receivables are lower than payables, in terms of days. As for the other regions (with positive CCC), the highest values are for the Aquitaine, PACA and Midi-Pyrénées regions; while the lowest values are for the Île de France, Rhône-Alpes and Auvergne regions. As for the distinction between individual and cooperative
vineyards, our results show that individual firms have a more efficient WCM than cooperative firms (CCC at -65 vs. 40 days, respectively). This difference is explained principally by the high value of DPO (days payables outstanding) of individual firms compared to cooperative firms (145 vs. 60 days, respectively). This means that the duration that individual vineyards take to pay their providers is much lower than that of cooperative ones.