The Impact of the Development of Unconventional Gas and Oil in Argentina: A Multi-Regional Input-Output Model

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According to the US Energy Information Agency, Argentina has the second shale gas reserves and the fourth shale oil reserves in the world. Also, Argentina is now one of only four countries (along with the US, Canada and China) to produce commercial volumes of crude oil from tight formations. The reservoirs are concentrated principally in the Vaca Muerta field (â€œDead Cowâ€•) in the province of NeuquÃ©n. The government has encouraged investments to develop a large-scale production. The required amount of investment until 2025 is estimated between 35 and 50 billions of Dollars.

While stressing the importance of the sale oil and gas (O&G) discoveries, there is a lack of studies evaluating its impact on the economy. The objective of the paper is to assess the effect of the exploitation of Vaca Muerta on the region and the whole country.

A hybrid bi-regional SAM was built to analyze the impact of Vaca Muerta in NeuquÃ©n province and in the rest of Argentina. For the construction of the RSAM, we use a national SAM using: i) an existing input-output matrix for NeuquÃ©n, ii) state data from production and exports, iii) specific information about O&G production, iv) non-survey estimations of IRIO with additional information which was included to improve the precision of the models.

With the RSAM, we simulate the impact of an increase in production of shale O&G resources in the province with alternative regional input-output and SAM models. The results allow observing the effect on the different activities (in and out of the region). This will help to identify potential bottlenecks that it should be removed to reach the production goals.