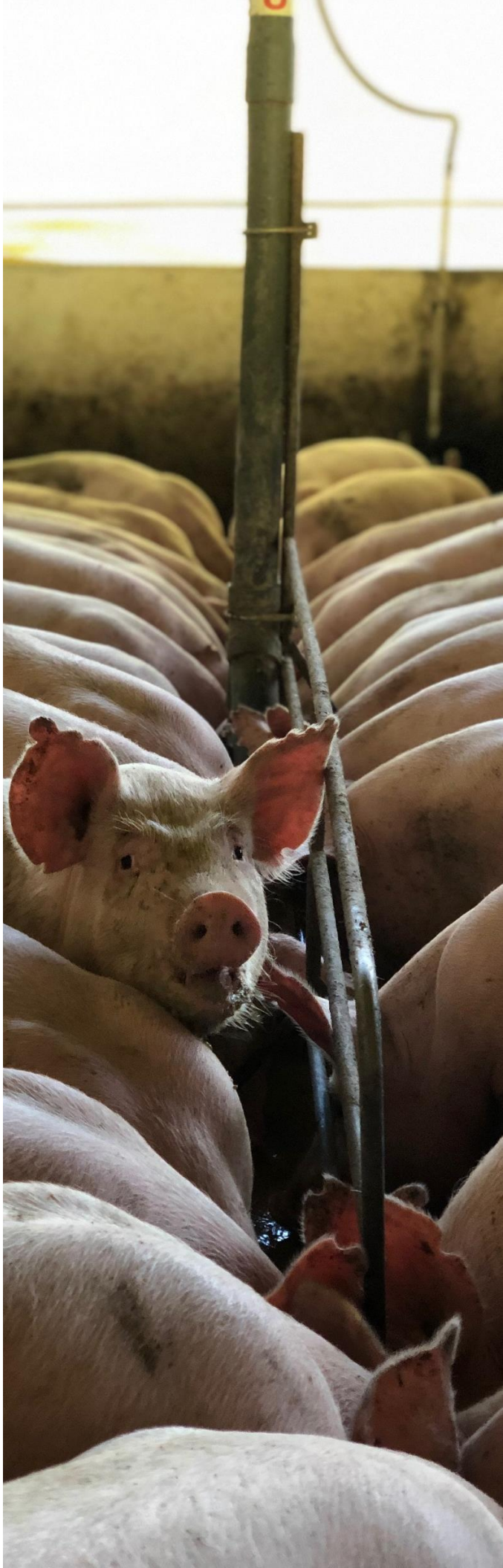
Swine Innovation Porc

Innovation in the Swine Industry through SIP and its Impacts on the Canadian Economy

Executive Summary

December 2022



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A Study to Measure the Economic Impacts of Swine Innovation Porc

Context of the study

Swine Innovation Porc (SIP) is a not-for-profit organization that facilitates and coordinates research and development as well as knowledge transfer on a national level for the Canadian swine sector. **Between 2010 and 2018, it has invested over $30M in multiple research projects** that aimed to increase the productivity of pork producers across Canada. In February 2022, SIP has mandated Aviseo Conseil to develop a rigorous analytical framework to estimate the economic impact of R&D projects financed by the organization, and therefore precisely quantify the return on investment from financing SIP.

To that end, Aviseo used a four-step approach which combines a sectoral analysis, a survey and case studies, an extensive review of the relevant scientific literature, and computable general equilibrium (CGE) modelling. The latter offers a mathematical representation of the Canadian economy, allowing us to estimate the impact of research and development in the swine sector on various variables such as GDP, jobs and fiscal revenues.

Main results

The pork industry, and the agricultural sector more generally, has historically been reliant on productivity growth, the ability to produce more with less, to remain profitable and competitive. This is particularly true when considering all the challenges currently faced by the industry, from strong international competition to the prevalence of swine diseases and the changing values of consumers.

In turn, productivity growth in the swine sector relies heavily on research and development, which makes SIP's role critical in funding research projects that are directly relevant to the challenges faced by pork producers. More precisely, **we estimate that SIP's activities between 2010 and 2018 will increase the productivity of pork producers by 3.5% over time.**

Increased productivity in the swine sector benefits the entire Canadian economy—not just pork producers. Indeed, the effect is two-fold:

1. The swine sector is closely integrated with many other sectors in the Canadian economy (e.g. grain producers, meat packers, veterinary services). These other sectors will benefit from a more productive swine sector;

2. As their productivity increases, pork producers and their employees should receive more income from their work. This additional income will be spent or reinvested elsewhere in the Canadian economy, generating increased economic activity and additional tax revenues for governments.

Using our model of the Canadian economy, we quantified those impacts. Indeed, **we estimate that SIP's activities between 2010 and 2018 will have increased the Canadian GDP by amounts ranging from 25 to 36 million $.** We also estimate that **fiscal revenues for all levels of government combined will have increased by amounts ranging from 41 to 47 million $.**

Source: Aviseo Conseil analysis, 2022

The Case for Investing in R&D in the Swine Sector is Strong

Implications of the results

For producers:

Our results show that investing in R&D leads to considerable gains in productivity. As we discussed, the swine industry in Canada is reliant on productivity growth, which historically stems from the adoption of new knowledge and new practices. SIP contributes to that; for instance, it is funding research projects that aim at reducing feed cost and improving biosecurity protocols, which reduces losses associated with pork mortality.

When it comes to the adoption of new knowledge and practices, pork producers rely on external R&D, since they do not necessarily have the time or expertise to invest in internal R&D. With the industry having experienced a period of consolidation over the past decades, new knowledge can be disseminated more rapidly, notably through provincial pork associations. It should also be noted that the producers we have interviewed all mentioned keeping up with new research. They also mentioned being able to quickly integrate new practices if they are associated with measurable benefits.

For policy-makers:

Our results show that investing in R&D in the swine sector is associated with a strong social return on investment (ROI). This social ROI can be measured by an increase in gross domestic product (GDP). GDP is an indicator of economic prosperity; increases in GDP are highly correlated with increases in the standards of living.

Our study shows that a $30 million investment in SIP is associated over the long term with an increase in GDP of $25 to 36 million—meaning that the ROI for the economy is about 100%. This is significant—in other words, for every dollar spent on pork research, it creates an additional new dollar for the Canadian economy.

Benefits are not only captured by pork producers. Indeed, firms, households and governments are all better off, as a more productive swine sector leads to higher income for many. For the government sector specifically, our results show that for every dollar spent on pork research, about 1.5 dollar is returned in fiscal revenues to all levels of governments combined.

Conclusion

In an environment where margins are low and interest rates are rising, it can be difficult for pork producers to invest in their business, including investments in R&D. Therefore, they rely on organizations like SIP, which provide external R&D. Research projects funded by SIP are critical to ensure that the sector remains productive and competitive in a challenging global environment.

As we have shown in this report, the case for investing in R&D through SIP is strong. Although the primary beneficiaries will be pork producers, the cascading effects from SIP-funded research projects will lead to sizeable benefits for the entire Canadian economy and society.

Source: Aviseo Conseil analysis, 2022

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