

# A deeper understanding of farm productivity

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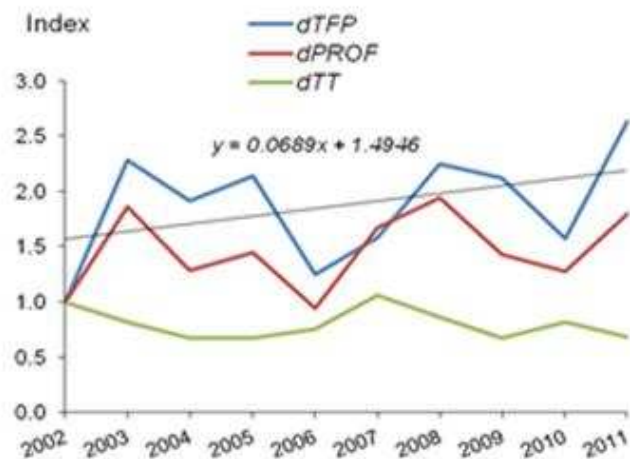
# What is special about this study

- 270 broadacre farm businesses were tracked from 2002 to 2011
- Their terms of trade, growth in productivity and profitability were measured
- Information was collected on the socio-managerial characteristics of these farm businesses.

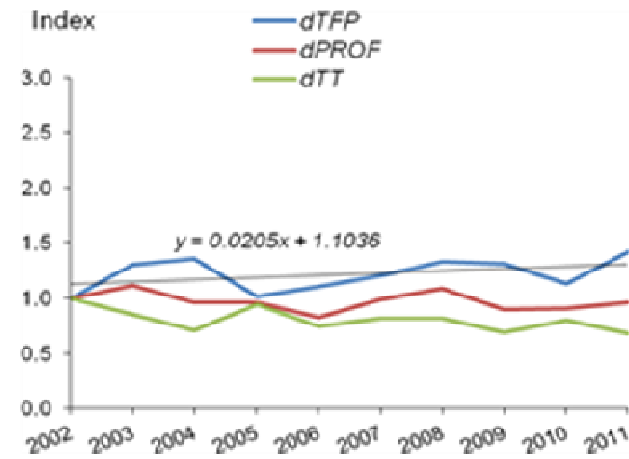
# What did we find?

Productivity growth for crop farms was treble that for sheep farms

Crop dominant farms



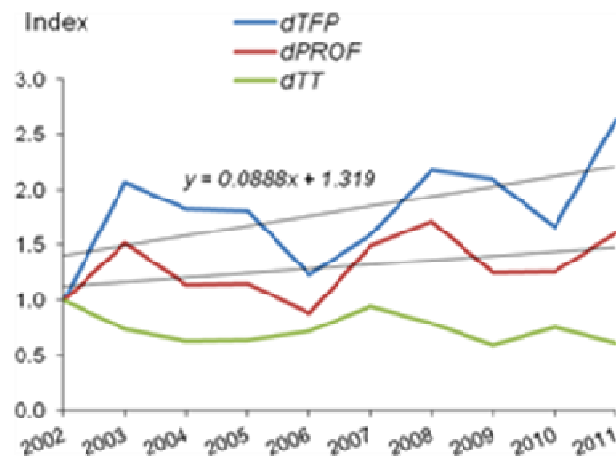
Sheep dominant farms



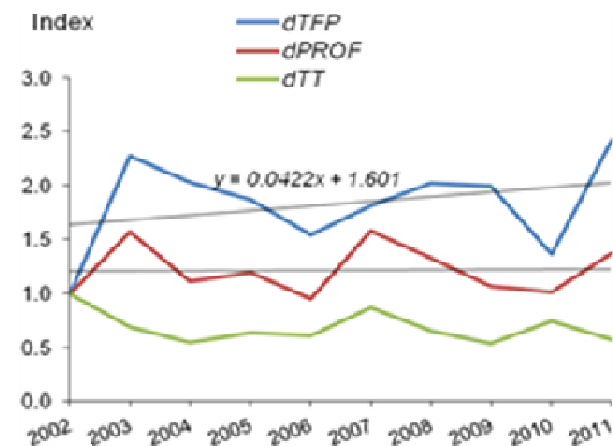
# What did we find?

Productivity growth for 'growing' farms was double that for 'less secure' farms

'Growing' farms

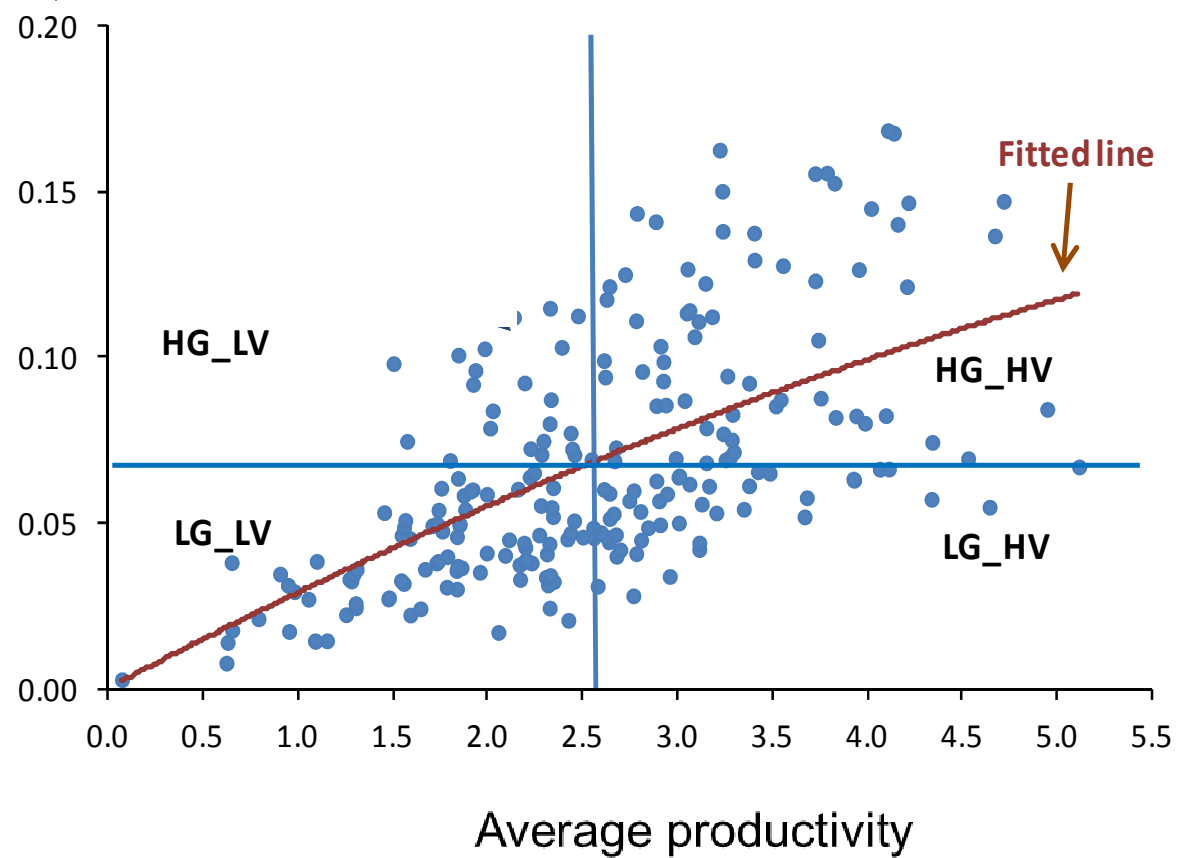


'Less secure' farms



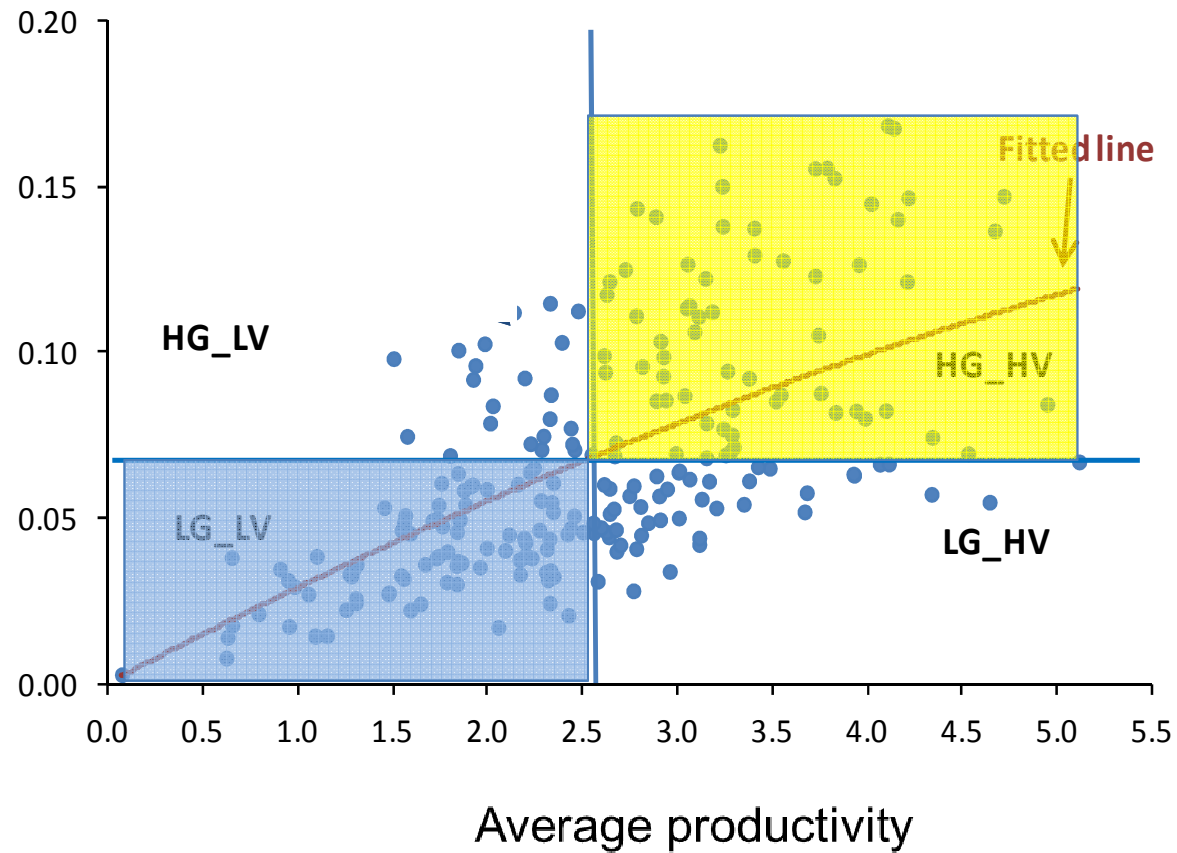
# What did we find?

Volatility in  
productivity



# What did we find?

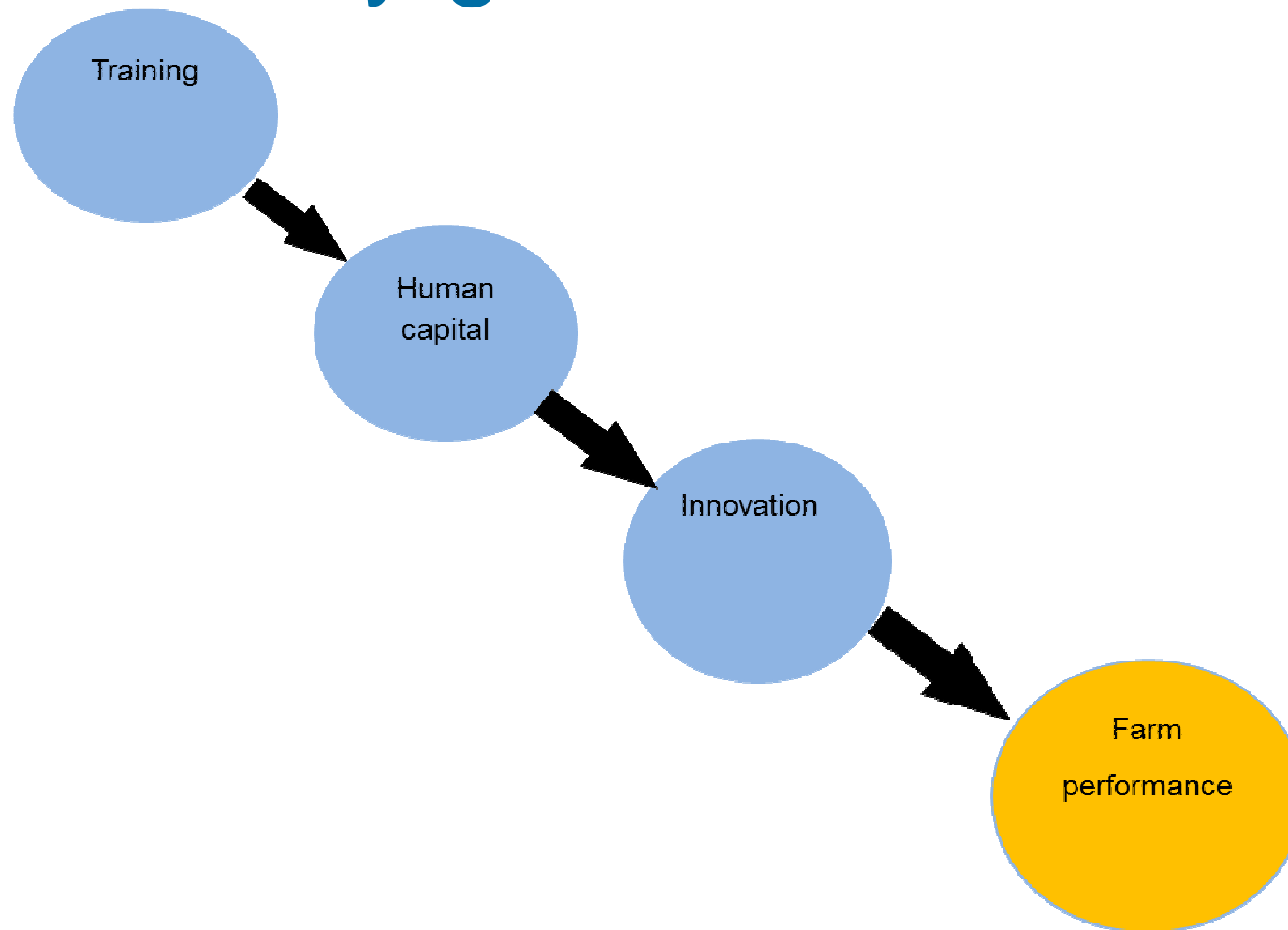
Volatility in  
productivity



# Farms in the HG\_HV quadrant are very different to farms in the LG\_LV quadrant

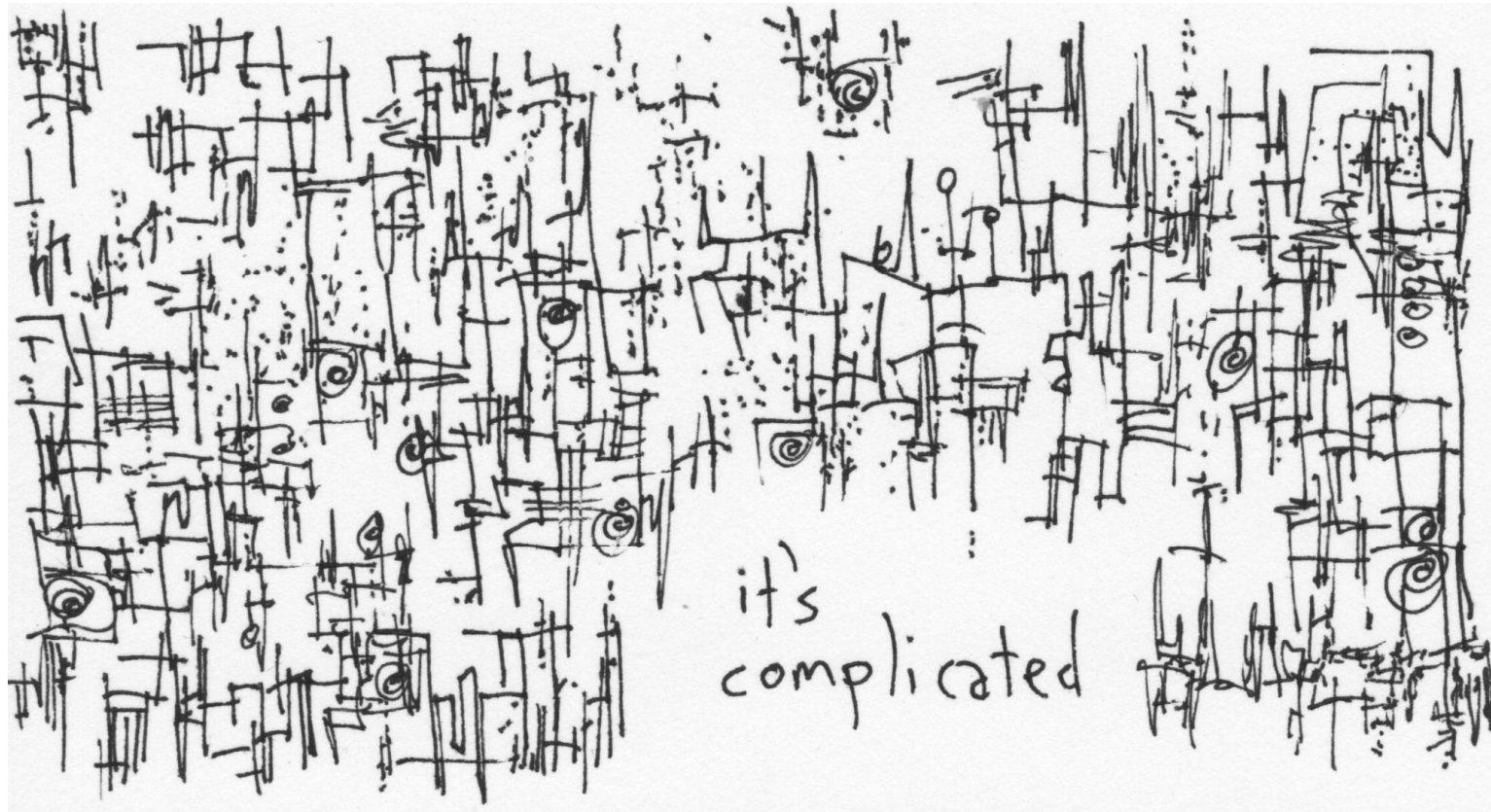
- much more profitable (\$288K of average annual farm profit vs \$63K),
- more lucrative in terms of return on equity, (5% vs 2%)
- larger in size (4581ha vs 2199ha),
- receive less growing season rainfall (227mm vs 285mm), are more likely to be in a low rainfall region,
- more crop dominant, (87% of farm income coming from crop revenues vs 65%),
- similar in farm equity; (80%),
- similar ratios of operating expenses to gross farm income, (0.73 vs 0.74),
- able to generate more crop yield per 100mm of growing season rainfall, (0.77 tonnes per 100mm per hectare vs 0.70),
- mostly crop specialists and mixed enterprise farms versus livestock specialists and mixed enterprise farms,
- less exposed to debt as indicated by the debt to income ratio, (1.02 versus 1.39 and the debt burden, \$352 per hectare vs \$535 per hectare),
- able to generate more livestock income per mm of growing season rainfall, (\$1.78 vs \$1.56 per mm per hectare),
- more likely to be a growing farm, less likely to be a less secure farm

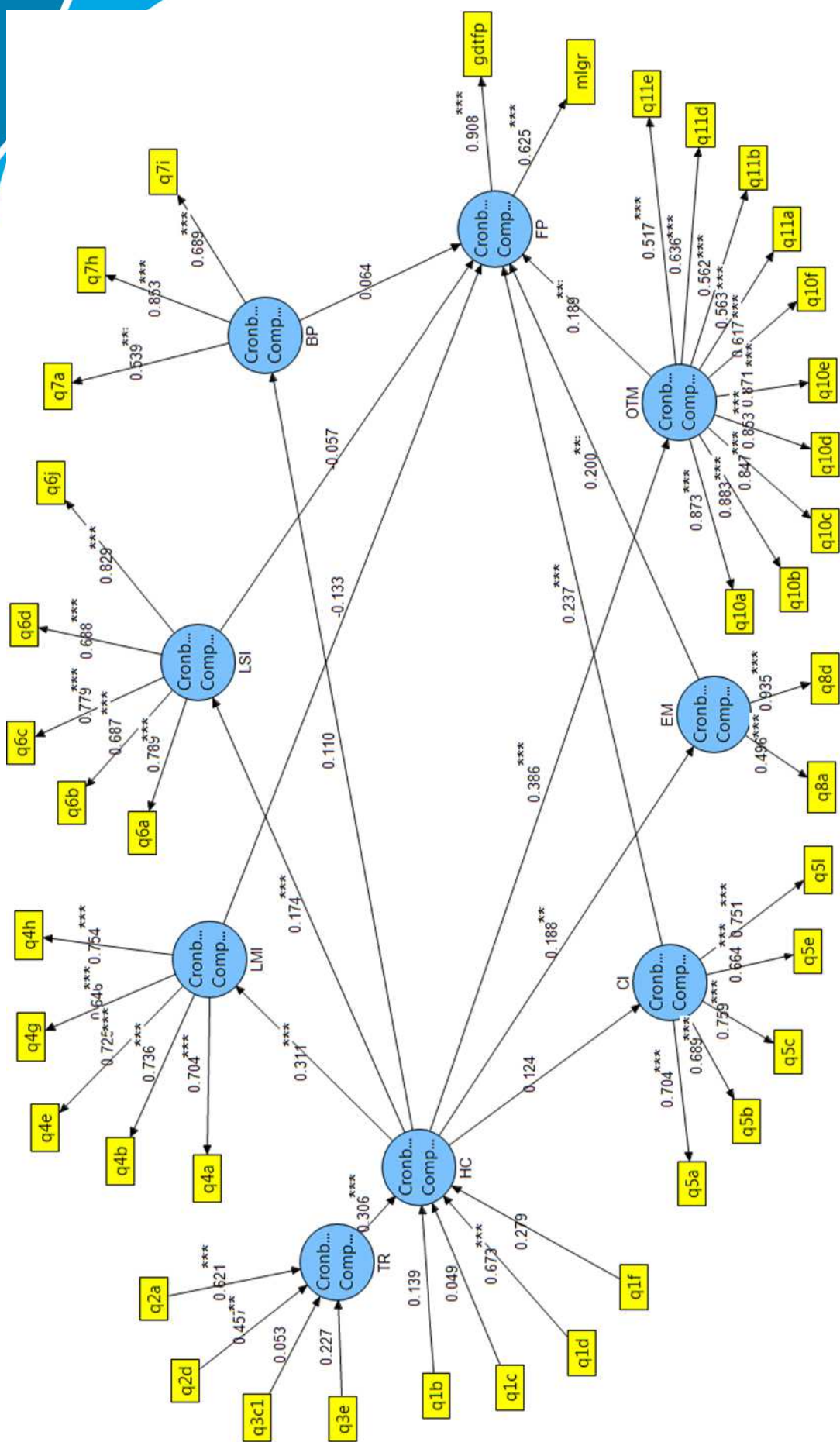
# A simple causal model of productivity growth

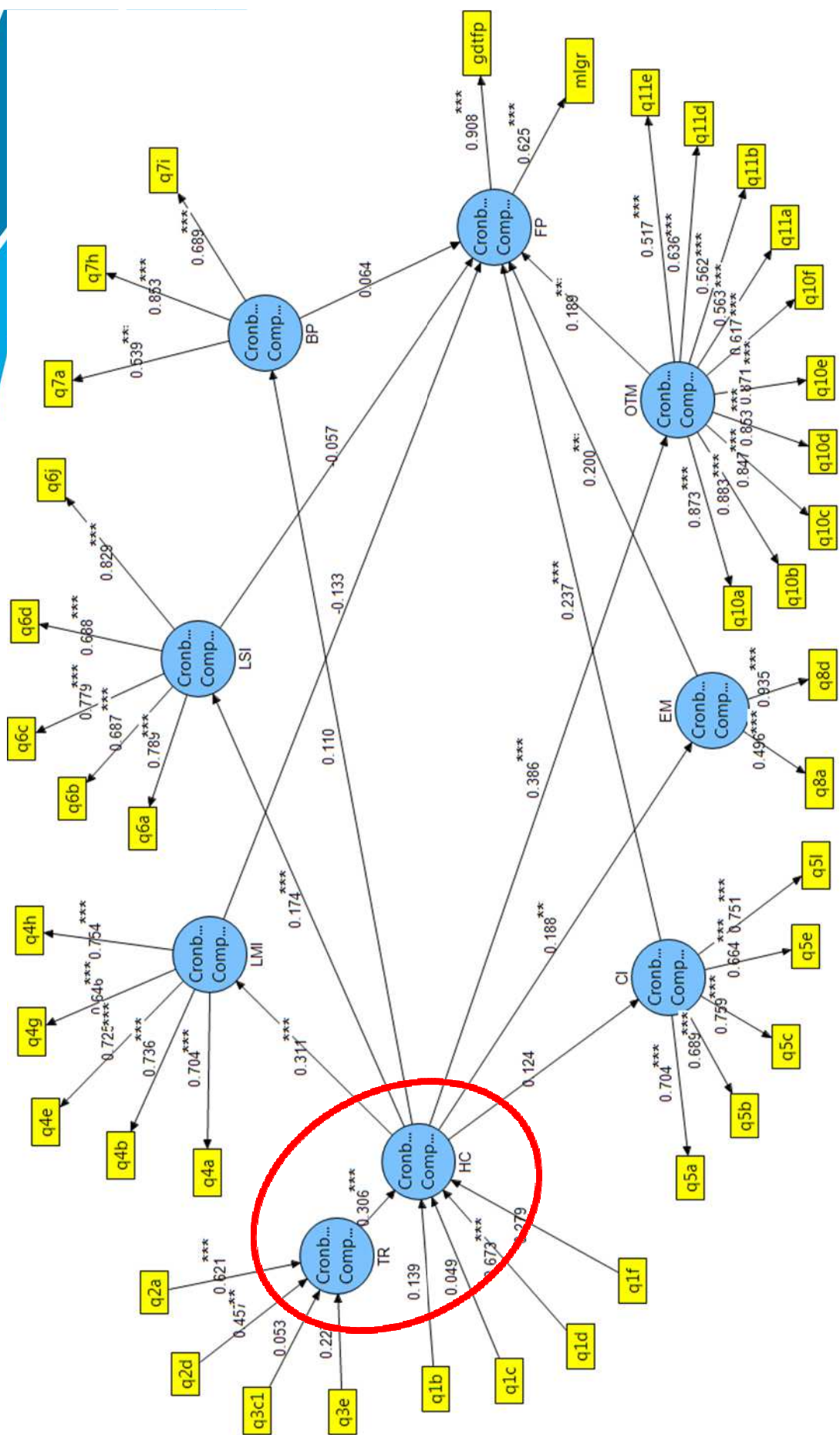




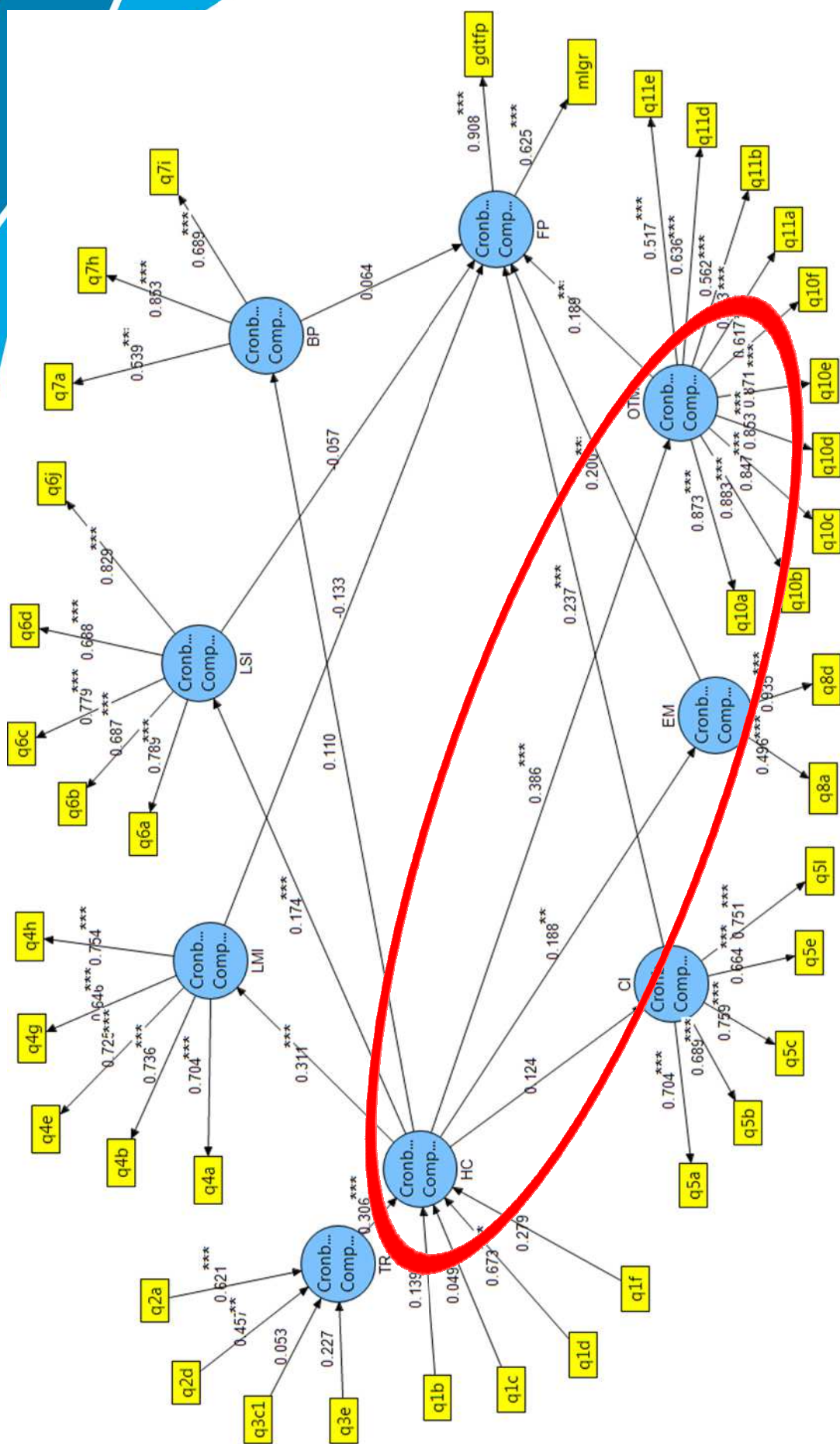
But reality is a bit more  
complicated.....

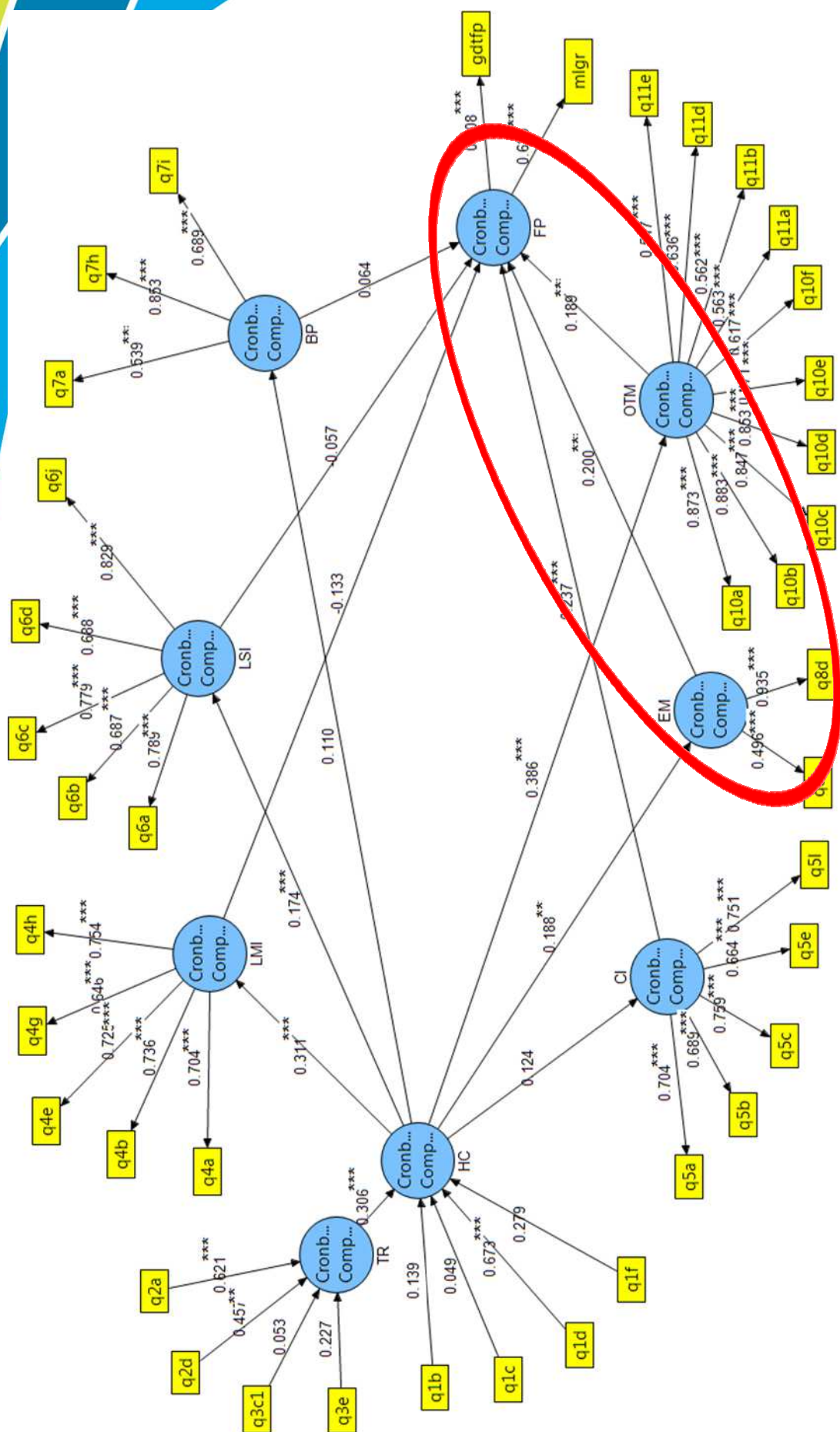


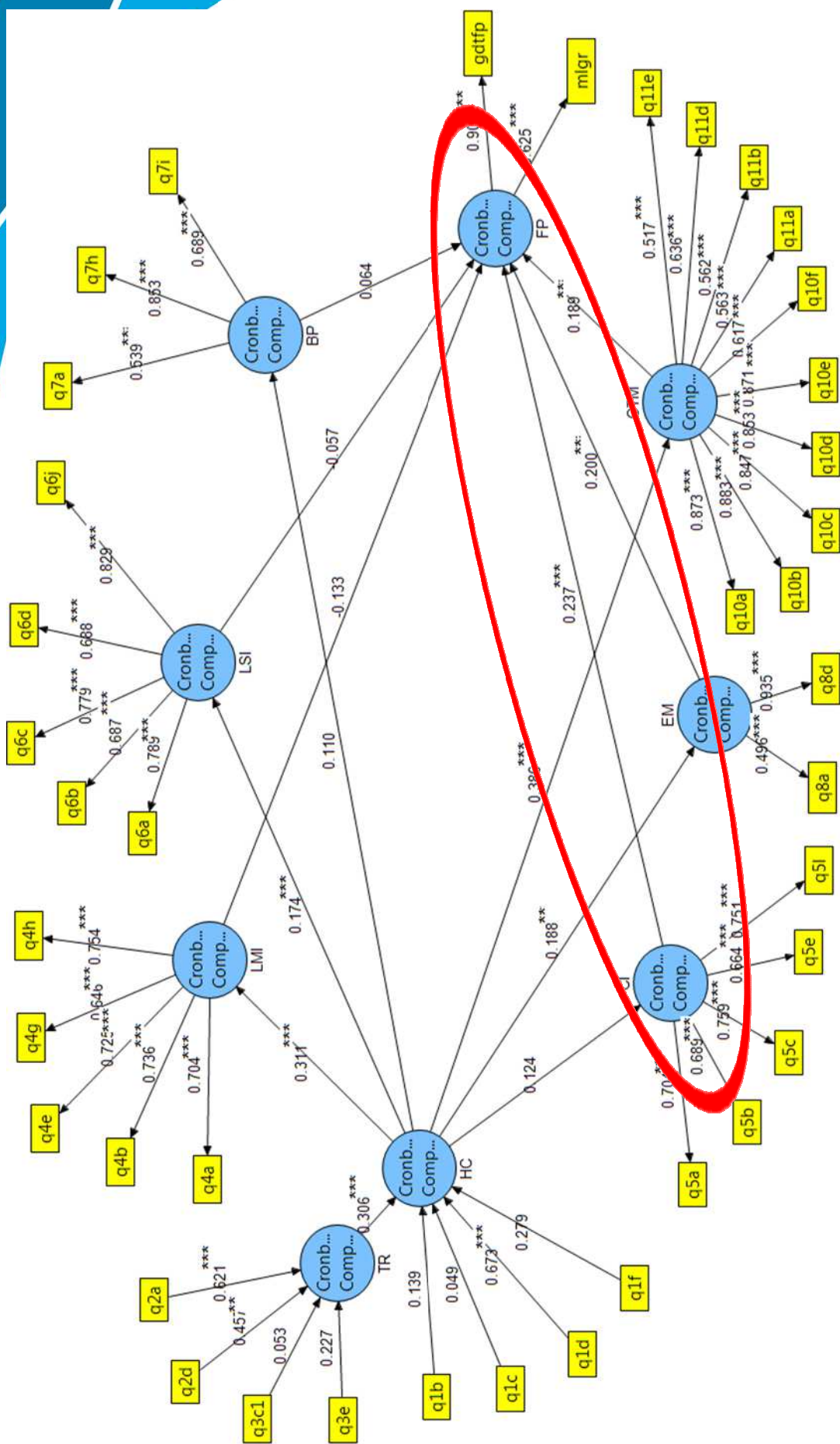















# So what's the modelling message?

- When cropping innovations have been adopted then, on average, farm productivity and profitability has been enhanced.
- An implication is that a main ingredient to future farm performance will be on-going investment in agricultural R,D&E to ensure farmers have access to profitable crop-based innovations.
- the farmer's skill in organization and time management is a significant positive influence on farm performance. Furthermore, this skill is in turn positively affected by the farm family's human capacity, and training that enhances human capacity.
- One implication is that provision of farm management and business training and education is likely to generate beneficial productivity and profitability outcomes through the beneficial effect of training on the farm family's human capacity.





# Thank you



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