

Intellectual Property Rights and Economic Growth: A Complicated Relationship

Adam Horne

Department of Economics; adam.horne.19@ucl.ac.uk

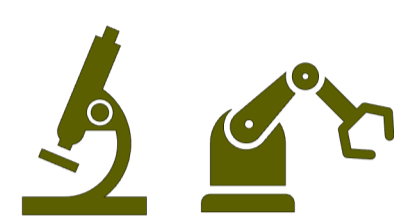


Background: intellectual property rights in the global economy

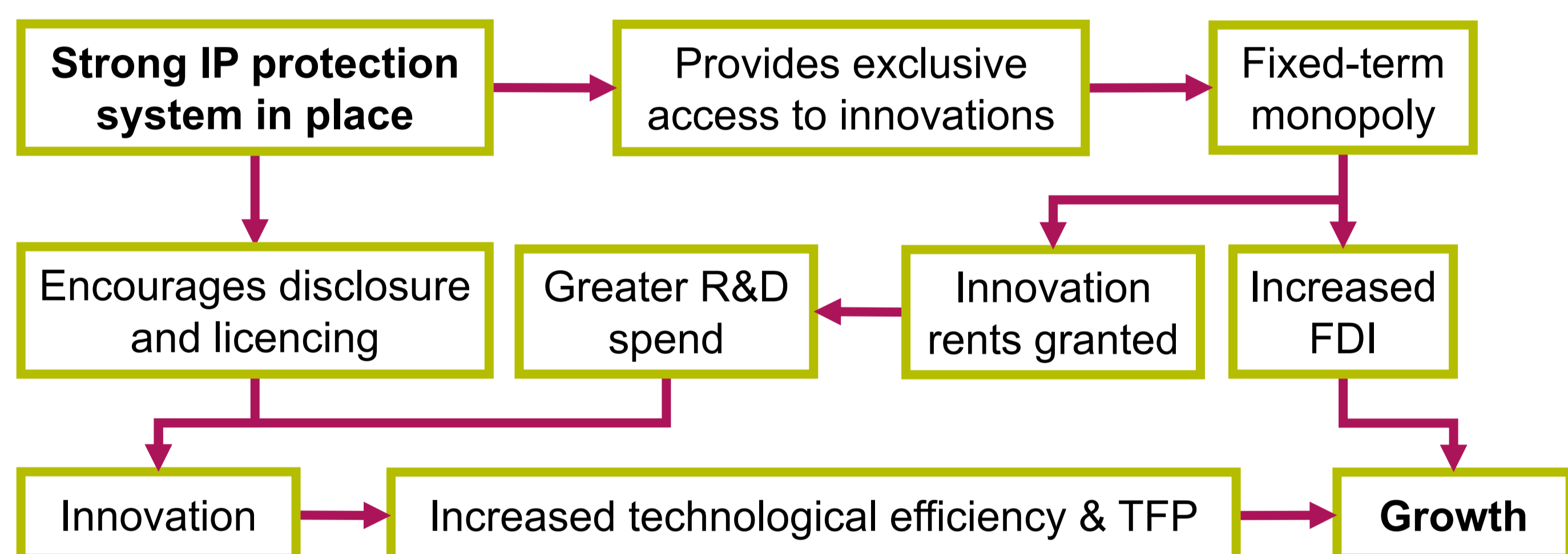


- Intellectual property rights aim to incentivise innovation through rewarding creators with exclusive rights to their work for a certain period, as well as facilitating the transfer of technology between firms and nations
- Common forms of intellectual property rights include patents, design rights, copyrights, and trademarks
- IP rights are required for membership of the World Trade Organisation (WTO) under the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement
- Some research has shown that the strength of a country's IP system is generally positively correlated with growth (Eicher and Newiak, 2013)
- However, the impact of IP rights isn't wholly positive, with the possibility of an opposing effect dampening growth, as well as effectiveness depending on a country's income
- Whilst conventional thinking supports the role of IP rights as part of a macroeconomic growth engine, there is growing literature drawing attention to the drawbacks of IPRs

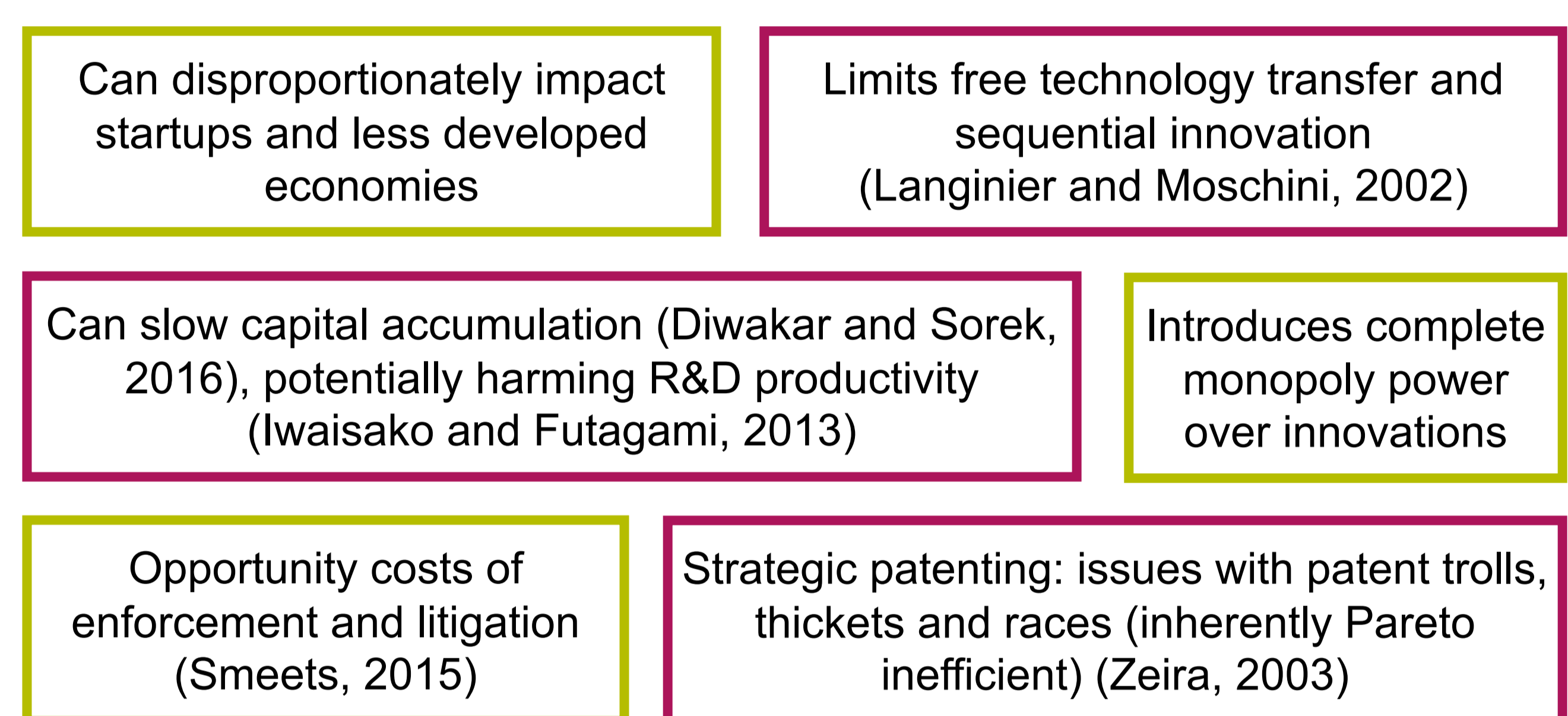
How IP rights help stimulate growth



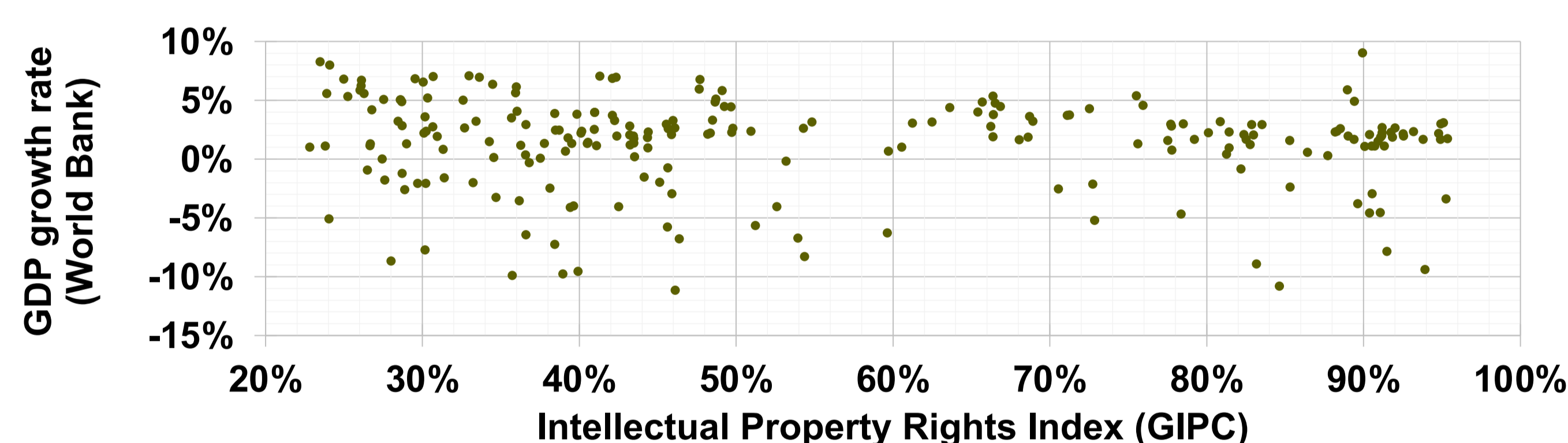
- By offering the exclusive access to an innovation, design or process, a temporary monopoly is formed; ensuring innovators get a return drives R&D expenditure and also attracts FDI



... but also hinder growth



Correlation between strength of IP rights and GDP growth

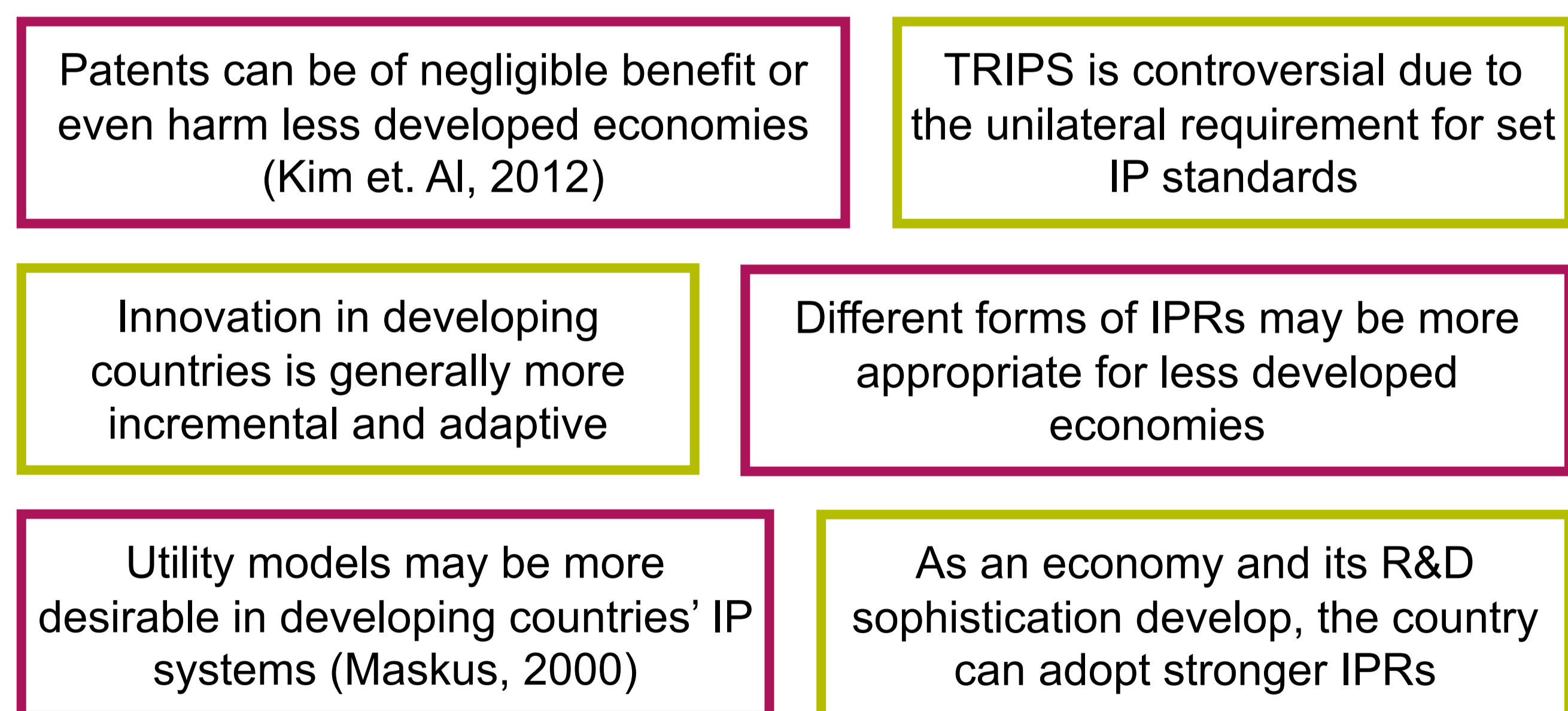


- At a first glance, there is no obvious correlation between the strength of a country's intellectual property rights and the respective rate of economic growth
- However, this isn't accounting for other, more significant determinants of growth
- This raises the question: what exactly is the effect of IP rights on economic growth, particularly by a country's level of development?
- To answer this, we must control for a number of other factors influencing growth, uncovering the true impact of IPRs

Differential impact by development level



- The impact of IPRs in developing economies can vary greatly to developed nations



- Solution: stage-dependent IPRs, with the strength of the IPRs rising proportional to income to maximise growth (Diwakar and Sorek, 2016)

Empirical findings



- To determine the effect of the strength of IP rights, we regress GDP growth on the IP rights index (a proxy for the strength of a country's IP protection system) and a number of other variables which are known to affect growth rates

$$\text{GDP growth rate} = \beta_1 \text{IP index} + \beta_2 \text{GDP} + \beta_3 \text{cap. growth} + \beta_4 \text{human cap.} + \beta_5 \text{pop. growth} + \beta_6 \text{pandemic} + \beta_7$$

Lower-middle income	Upper-middle income	High income
$\beta_1 = -0.0892$	$\beta_1 = 0.1478$	$\beta_1 = -0.0151$

Income class as defined by World Bank (2022)

- Based on the International IP index and World Bank data, we find that there is a slight negative relationship between the strength of IP rights and GDP growth in lower-middle income countries, and to a lesser extent in high income countries, whereas stronger IP rights accelerate growth in upper-middle income countries
- This confirms the hypothesis that implementing IP rights has varying effects based on the growth stage of the economy

Conclusions

- Ultimately, an optimal system of intellectual property rights must strike a balance between encouraging innovation, allowing the diffusion of knowledge, and promotion of fair competition; when the strength and composition of the system, and its subsequent enforcement, is tailored to the growth stage of the economy, this can unlock the benefits of IP rights for sustainable growth

References

- Diwakar, B. and Sorek, G. (2016). 'Dynamics of Human Capital Accumulation, IPR Policy, and Growth', *Auburn Economics Working Paper Series*, Auburn University. Available at: <https://cla.auburn.edu/econwp/Archives/2016/2016-11.pdf> (Accessed: 15 March 2022).
- Eicher, T.S. and Newiak, M. (2013). 'Intellectual property rights as development determinants', *Canadian Journal of Economics*, February, 46(1), pp.4-22. doi: 10.1111/caje.12000.
- Iwaisako, T. and Futagami, K. (2013). 'Patent protection, capital accumulation, and economic growth', *Economic Theory*, March, 52(2), pp. 631-668. doi: 10.1007/s00199-011-0658-y.
- Langinier, C. and Moschini, G.C. (2002). 'The Economics of Patents: An Overview', *CARD Working Papers*, 335. Available at: http://lib.dr.iastate.edu/card_workingpapers/335 (Accessed: 15 March 2022).
- Maskus, K. (2000). 'Intellectual Property Rights and Economic Development', *Case Western Reserve Journal of International Law*, 32(3), pp.471-506. doi: 10.1596/0-8213-4708-X.
- Zeira, J. (2011). 'Innovations, patent races and endogenous growth', *Journal of Economic Growth*, 16(2), pp.135-156. doi: 10.2139/ssrn.351241.