
The International Price Referencing (IPR) conundrum: Strategic approaches for practical implementation

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In most markets, national P&MA decision bodies consider the product's price in other markets when determining the price of a new pharmaceutical product. This is commonly called international price referencing (IPR).



International price referencing is a powerful tool for cost containment of pharmaceuticals, allowing markets to reference external price anchors that may provide a lower base for price negotiations, or deterministically set the price of the product in the own country. Given the number of markets that have adopted international price referencing policies, today's IPR landscape is a complicated web of referencing and re-referencing relationships. (Figure 1)

The predictability of referencing also strongly varies by market. Some markets have a formal price referencing process with a clearly defined algorithm, such as the Netherlands, where the price of a pharmaceutical product is deterministically set by bi-annually referencing the average ex-wholesaler price of the product in Belgium, France, Germany (replaced by Norway in 2020), and the United Kingdom. Other markets have a less predictable price referencing process, such as Germany, where an average price (weighted by purchasing power) of up to 15 reference countries is used as one price anchor in the AM-NOG process, but this is only one of several arguments during price negotiations. This variability in formality and stringency of IPR use by a specific market is another component adding to the ever-increasing complexity of international price referencing.

This system then leaves pharmaceutical companies with two key questions: When should IPR be considered, and how can IPR considerations be integrated into the overall commercial strategy for a pharmaceutical product?

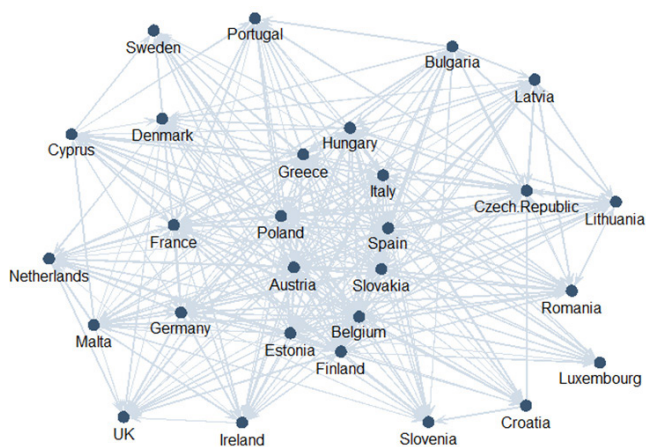


Figure 1: Referencing relationships within Europe

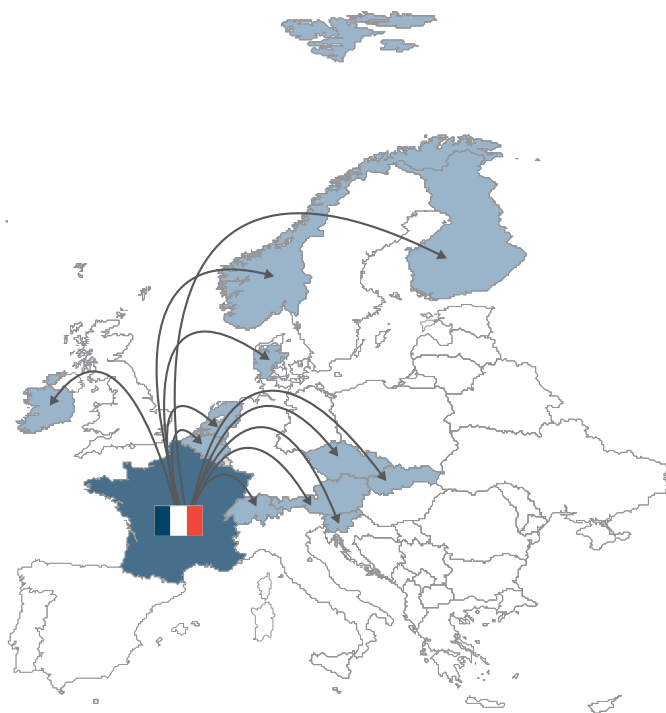
When does IPR matter, and why?

The answer to this question is quite simple: IPR matters at every point of the pharmaceutical product life cycle.

IPR at launch

At launch, IPR risks must be assessed in order to set a global list and net price corridor for a new pharmaceutical product, optimize its international launch sequence, assess the time-to-market per country, and develop and execute a global launch strategy. After target prices are assessed for each market individually, an IPR impact and risk analysis will need to be conducted in order to confirm if these country-specific optimal prices are actually achievable given prices in international markets, or if cross-country adaptations and sacrifices need to be made. Without such an extensive IPR risk analysis, it is unlikely that a global pricing strategy for a new pharmaceutical can be executed and ultimately be successfully implemented.

Example: The French affiliate of a mid-sized biotech company is hoping to improve the market access position of a drug within France by launching 20% below the target price. In the business case submitted to Global Headquarters, the French affiliate has determined that, within France, the price-volume trade-off favors the 20% lower price and will result in an additional €15.8m upside in NPV within 5 years within France. However, when the affiliate submits the request and the global P&MA analyst team conducts a sophisticated IPR risk analysis, it is determined the 20% lower price in France would result in a global loss of €11.7m in NPV in the same time frame, due to international price referencing implications that would reduce NPV outside France by €27.5m (Figure 2). If the manufacturer did not have a global launch price strategy with comprehensive cross-country analysis, the French affiliate's suggestion based on an isolated market would have cost the company millions.



IPR impact of a price reduction in France

Cumulative NPV (5 years, in mio. €)

	Austria	-1.7 €
	Belgium	-4.6 €
	Czech Rep.	-0.1 €
	Denmark	-1.3 €
	Finland	-2.0 €
	France	15.8 €
	Ireland	-2.0 €
	Netherlands	-9.9 €
	Norway	-1.8 €
	Slovakia	-0.1 €
	Slovenia	-0.4 €
	Switzerland	-3.0 €

Figure 2: Spill-over of pricing decisions to other countries

IPR throughout the product lifecycle

Although price referencing at launch is important to achieve a drug's target pricing and ultimately its initial commercial goals, vigilant monitoring of IPR during a product's entire lifecycle is of critical importance for its long-term commercial success. Prices of pharmaceuticals are referenced and re-referenced in regular or irregular time intervals by pricing authorities all around the globe. This means IPR risks need to be constantly monitored and need to be considered both for strategic price changes in individual markets, where manufacturers typically face price-volume tradeoffs, as well as in day-to-day price management, to avoid unwanted and unnecessary price erosion over time.

Example: The decision by a top-10 multi-national pharma company to remove an anti-epilepsy drug from the German market serves as a good example demonstrating the analysis required for strategic decisions within the product life cycle. The product was approved by EMA, and soon after entered the AMNOG process in Germany, which resulted in a verdict of a "no additional benefit" rating for the drug. After this decision, the manufacturer faced a choice between 2 scenarios:

Scenario A: Keep the product on the German market, with an expected negotiated, visible ex-manufacturer list price equal to only 10% of the freely set pre-AMNOG price (i.e. a 90% price drop in the German market). Subsequent international price re-referencing across Europe would drop the international pricing corridor significantly (Fig 3a)

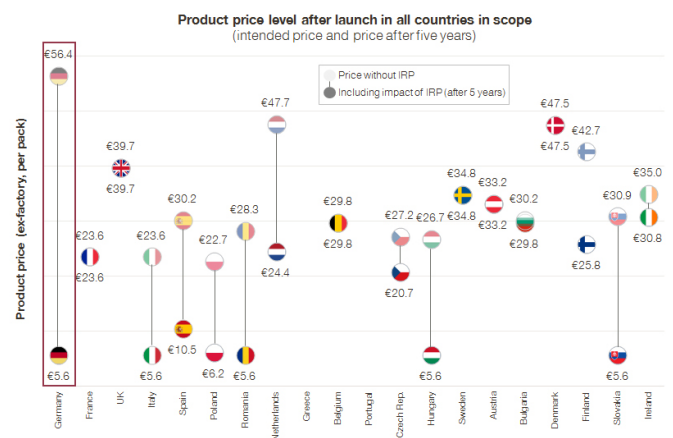


Figure 3a: Accepting IPR impact from Germany after the AMNOG process (Scenario A)

Scenario B: Remove the product from the German market and give up all sales in Germany, but protect the achieved price levels of the product in other EU markets. Some price re-referencing occurs in other markets even without a low price in Germany, but the international price corridor remains relatively constant (Fig 3b)

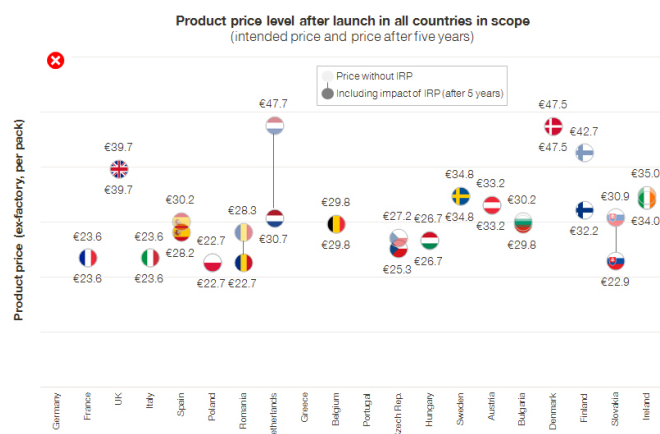


Figure 3b: "Opt-out" IPR impact from Germany after the AMNOG process (Scenario B)

Simulating this case using Simon-Kucher's proprietary International Price Referencing Analytics Model, we can determine that the volume loss in Germany would not have outweighed the IPR implications and risks, as the 5-year Net Present Value (NPV) is 19.8% higher for Scenario B than for Scenario A. The manufacturer actually withdrew the product from the German market and used the "opt-out" option in the AMNOG price negotiations.

Without a sophisticated IPR analysis, it is impossible to accurately weigh the pros and cons of strategic options and any decision would have been at best an educated guess by senior management.

How should IPR impact and risk assessment be integrated into a company's strategic processes?

Awareness and consideration of the implications of IPR is just the first step. IPR assessment and monitoring must be formally operationalized and appropriately integrated in a company's global price governance process in order to avoid unwanted negative cross-market repercussions.

IPR assessment should not end once a product is launched. Constant post-launch price management needs to be a key consideration in the day-to-day work of every P&MA department. Existing global pricing databases or international price management systems can be integrated with sophisticated IPR analysis tools in order to carry a product or portfolio successfully through its lifecycle. Having a structure to ensure IPR is considered at each strategic decision point in the lifecycle of a pharmaceutical product (e.g. new indication launch or administrative price cuts in certain markets) is equally as important as having a system to analyze IPR implications. Establishing a global hierarchy and escalation process for price change request approval through global price governance is essential in avoiding unnecessary price erosions as a result of IPR (Figure 4).

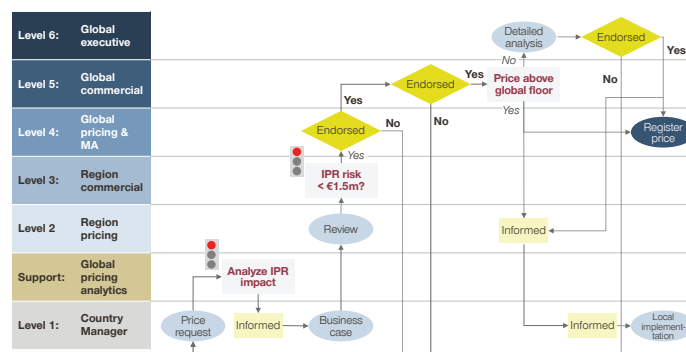


Figure 4: Price governance that systematically considers IPR impact assessment

What is needed to use IPR strategically?

In order to cover and integrate IPR management appropriately and ultimately strategically into a P&MA departments day-to-day business requires the following ingredients for success:

- 1. An up-to-date, state-of-the-art IPP library:** Knowing the specifics and complexities of a different country's IPR rules lies at the heart of best-in-class IPR management. A state-of-the art information set is ideally constantly updated (at least twice per year) and includes information that goes far beyond a "who-references-who" IPR matrix. Information such as exact referencing method and method of calculation,

referencing process (formal vs. informal), referencing metric (e.g. list ex manufacturer vs. public price), timing of referencing, products that referencing applies to (reimbursed vs. non-reimbursed, retail vs. hospital vs. OTC products, patented vs. generics vs. biosimilars etc.) all ideally needs to be included in a sophisticated IPR library (Figure 5). Simon-Kucher constantly tracks IPR details in nearly 100 countries of the world.

2. A detailed pricing lexicon: Often P&MA stakeholders from headquarters struggle to identify the right pricing metric for IPR in their communication with their affiliates. A company-wide pricing lexicon needs to be developed and adhered to in order to have a common understanding on the multitude of different pricing metrics along a country's price waterfall and know to which pricing metric in a specific country the IPR rules apply (Figure 6).

3. Detailed knowledge of product characteristics: IPR rules don't apply in the same way to all pharmaceuticals. In order to apply the existing IPR rules across markets consistently, a P&MA manager needs to know which rules apply and how they apply to a certain pharmaceutical product. Is the product in question a retail or a hospital product? Is it reimbursed vs. non-reimbursed or partially reimbursed in a certain market? What is the perceived benefit? Does it have a special status within the P&R system as it is (e.g., blood-derived products for diseases like hemophilia)? These and many more – often country-specific – questions need to be known in order to use the correct IPR rules in certain markets.

4. IPR Matrix: An international price referencing matrix (at launch and after launch incl. re-referencing) is the ultimate aggregation of IPR complexities for a specific pharmaceutical product. It can be used as a quick look-up for likely price reactions when a price in a specific market is set or decreased (Figure 7).

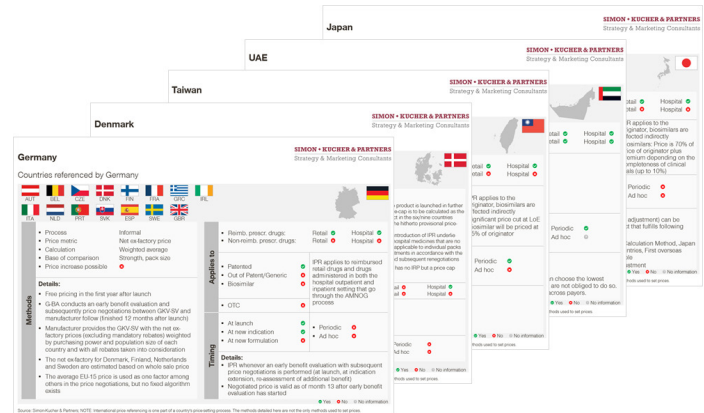


Figure 5: Price referencing library

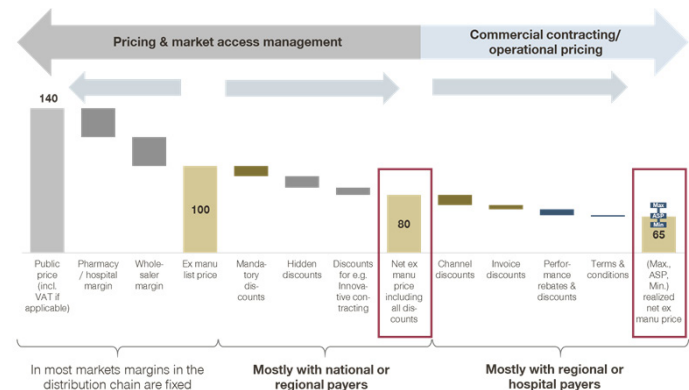


Figure 6: Price waterfall as a part of a pricing lexicon

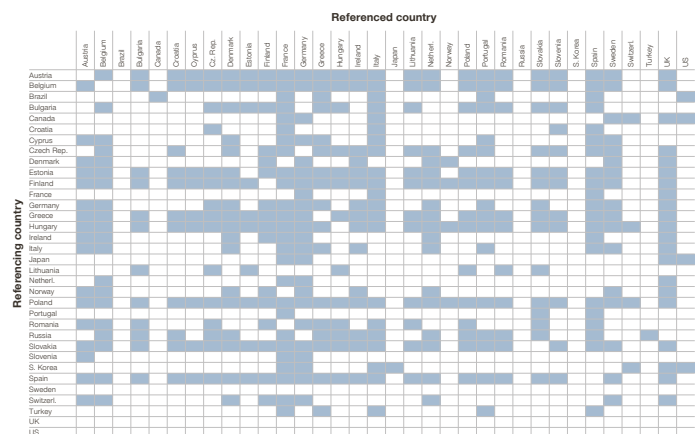


Figure 7: IPR matrix for selected countries

5. Sophisticated, state-of-the-art IPR analytics model:

Developing a robust, yet still manageable, IPR tool that is intuitive and user friendly is challenging. According to our knowledge, a lot of companies have tried to do so but only very few have succeeded. Most of the off-the-shelf solutions have limitations and don't capture the full complexities of IPR as outlined above. In addition, to correctly consider the trade-off between price and volume effects, information on price elasticities and volume assumptions also need to be known and included for a specific product.

According to our market expertise, a state-of-the-art IPR analytics model should cover the following key items (among others):

- Correct and comprehensive price referencing rules including multi-period considerations (re-referencing) and informal (non-deterministic) price referencing
- Different price metrics (e.g., list ex-manufacturer price, net ex-manufacturer price, ex-wholesaler price, public price) to be able to calculate international price referencing on the same price metric as the national authorities
- P&MA negotiation timelines (which may also depend on the aspired product price level)
- Volume and price elasticity assumptions, including assumptions on uptake, to allow for NPV calculations
- External events (i.e., all events that impact price and volume in certain markets, but that don't originate in the IPR mechanism)
- Algorithms to improve/optimize the launch sequence and price corridor

Without those detailed considerations, an assessment of the impact of IPR is often not only less precise, but simply wrong.

Simon-Kucher uses its comprehensive experience in pricing and the health care industry to develop a state-of-the-art IPR tool to analyze and mitigate the impact of international price referencing. The Simon-Kucher IPR Analytics Model is specifically developed to cope with the real-life complexities of IPR. The model factors in all key consider-

ations for IPR using multi-dimensional data, including idiosyncratic price referencing rules, re-referencing, informal (non-deterministic) price referencing, product-specific price elasticities, estimations on P&MA negotiation times, COGS, product characteristics, and external events. In doing so, it can support in optimization of launch sequencing, definition of international price corridors, revenue/profit/NPV forecasting, assessment of IPR risk, parallel trade, cannibalization, and more (Figure 8).

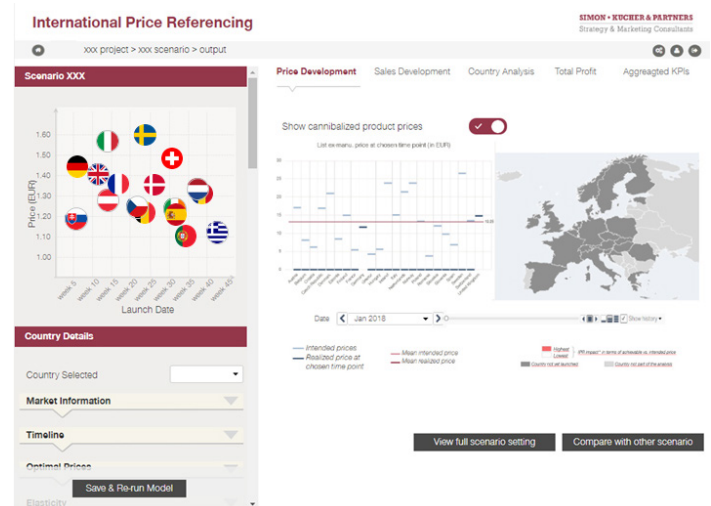


Figure 8: Simon-Kucher's IPR assessment tool

Looking forward: How might IPR change?

With healthcare costs put on center stage in recent months, resulting in scrutiny of drug prices and development of new policy, close consideration of developments around IPR on a global scale will become even more important.

In the US

On October 25, 2018, Centers for Medicare & Medicaid Services (CMS), issued an Advanced Notice of Proposed Rulemaking (ANPRM), soliciting public comment on a new rule titled the International Pricing Index (IPI) model. The IPI model would propose benchmarking of CMS reimbursement for Medicare Part B to international prices.

This proposal comes in response to increasing Medicare Part B drug expenditures and a recent study comparing the US drug acquisition costs for 27 Medicare Part B physician-administered drugs to that in 16 other coun-

tries: Austria, Belgium, Canada, Czech Republic, Finland, France, Germany, Greece, Ireland, Italy, Japan, Portugal, Slovakia, Spain, Sweden, and the United Kingdom. The study found that, on average, acquisition costs in the US were 1.8x higher than in comparator countries, with a range from parity pricing up to 7 times higher for some US drugs.

The IPI Model would begin in spring 2020 and be in effect until the spring of 2025 for a selection of providers and products, including single source drugs, biologicals, biosimilars, and multiple source drugs with a single manufacturer. For each Part B drug, the new Medicare payment would be set at a Target Price derived from an IPI factor based on pricing data from 14 countries considered to either have economies comparable to the US or that are included in Germany's market reference basket: Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands and the United Kingdom.¹

Given the importance of US sales for the pharmaceutical industry, the IPI model may have significant implications for global markets, resulting in reactionary strategies in which products are not launched or are delayed to launch in ex-US markets.

Global price transparency

Similarly, on May 28, 2019, The World Health Organization (WHO) approved a draft resolution to support international price transparency at The World Health Assembly in hopes of universally lowering drug prices. The resolution "urges Member States in accordance with their national and regional legal frameworks and contexts to take appropriate measures to publicly share information on the net prices of health products," where "net price or effective price or net transaction price or manufacturer selling price is the amount received by manufacturers after subtraction of all rebates, discounts, and other incentives."²

Not unlike implications of the US IPI Model, the resolution

On July 5th, 2019, President Trump announced his administration was working on an executive order that would lower drug prices for the US government. Under the proposed order, called the "favored-nations clause", payment for drugs included would be capped at the lowest international benchmark among developed nations. Further details on scope of the order and timing for implementation have not been specified. There are a number of questions as to which programs this would apply to, as the federal government is a direct purchaser of drugs through the VA and DoD programs, but typically only an indirect purchaser through programs such as Medicare. The administration is still working on a plan in parallel to set government reimbursement for physician-administered drugs based on an index of international drug prices.

¹ Centers for Medicare & Medicaid Services: Advance Notice of Proposed Rulemaking, International Pricing Index Model for Medicare Part B Drugs, October 25, 2018

² World Health Organization: Draft resolution of the Seventy-Second World Health Assembly, Improving the transparency of markets for medicines, vaccines, and other health products, May 28, 2019.

toward "Improving the transparency of markets for medicines, vaccines, and other health products" may result in limitation of differential price arrangements for low and middle-income countries in order to protect price levels in higher-income markets.³

Beyond these two specific proposed policies, IPR is becoming increasingly relevant as it begins to take on a more prominent role across the globe. IPR is being used as a mechanism for price control in more markets, and IPR rules are becoming stricter in markets where IPR is already in place. Additionally, it is increasingly common for markets to reference global prices informally, without any specific market reference basket, or referencing rules, or calculations, making it more difficult to predict and plan for cross-market interdependencies. As such, a sophisticated and comprehensive IPR analysis is all the more essential to inform a list and net price strategy of a pharmaceutical product, both at launch and throughout the product life-cycle. (Figure 9)

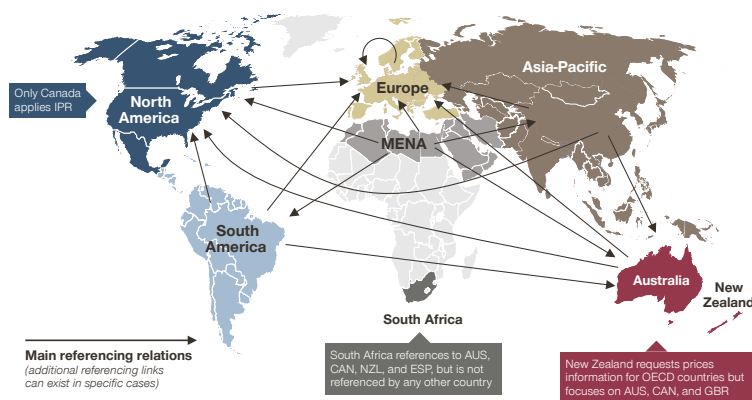


Figure 9: Global cross-regional price referencing relations

Quick tips: Dos and Don'ts of IPR

Though every product and market situation is unique when it comes to IPR implications and must be assessed as such, a few takeaways hold true for IPR across contexts.

Dos

- i. Incorporate IPR into a product's strategy from launch and continue to monitor IPR implications throughout the product lifecycle
- ii. Always evaluate strategic decisions for IPR implications to ensure that affiliates understand the risks and do not approve price changes without considering other markets
- iii. Consider the specific IPR rules of each country, not only the basket of markets which it references, to avoid oversimplification and subsequently inaccurate conclusions

Don'ts

- i. Don't rely on rudimentary analysis to quantify IPR impact. A robust and sophisticated IPR analysis is essential in capturing country-specific nuances and intricacies
- ii. Don't only account for formal price referencing, as informal price referencing may have just as much impact
- iii. Don't rely fully on technology to carry out IPR analysis and deliver the optimal strategy. Expert opinion is necessary to transform analysis into an actionable and realistic strategy
- iv. Don't focus solely on main markets. Smaller countries can compound, especially if referenced by larger markets.

³ The Economist: The global battle over high drug prices, May 21, 2019.

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