



HEALTH

# Integrating Economic and Public Health Perspectives

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## *Economic Vs Public Health View*

- **Both play an important role in policy process**
- **Often seemingly at loggerheads**
- **Interventions supported by both perspectives most likely to be effective and politically acceptable**
- **Without understanding the economic perspective, health and public health professionals will have limited influence**

# *The Public Health View*

- **Intervene if health could be improved**
- **Expert opinion to evaluate desirable outcomes**

## *Limitations of Public Health View*

- **No explicit role for individual preferences**
- **No explicit consideration of other trade-offs**
- **Often out-of-touch with majority opinion – making industry lobbyists seem the more “reasonable” party**

# *The Economic View*

- **Health only one of many competing goals**
- **Consumer sovereignty over outcomes**
  - **Central feature of the US institutional framework**
- **Only intervene if market failure**
  - **Externalities**
  - **Underprovision of public goods/services**
  - **Information problems**

# *Federal Agencies Must Identify Market Failures That Proposed Regulations Address*

- OMB's "Regulatory Planning and Review" guidelines ask that proposed regulations
  - "... determine whether there exists a market failure that is likely to be significant."
  - "distinguish actual market failures from potential market failures that can be resolved at relatively low cost by market participants."
- No actual market failure – no role for federal regulation!

# *Key Assumptions in Economics*

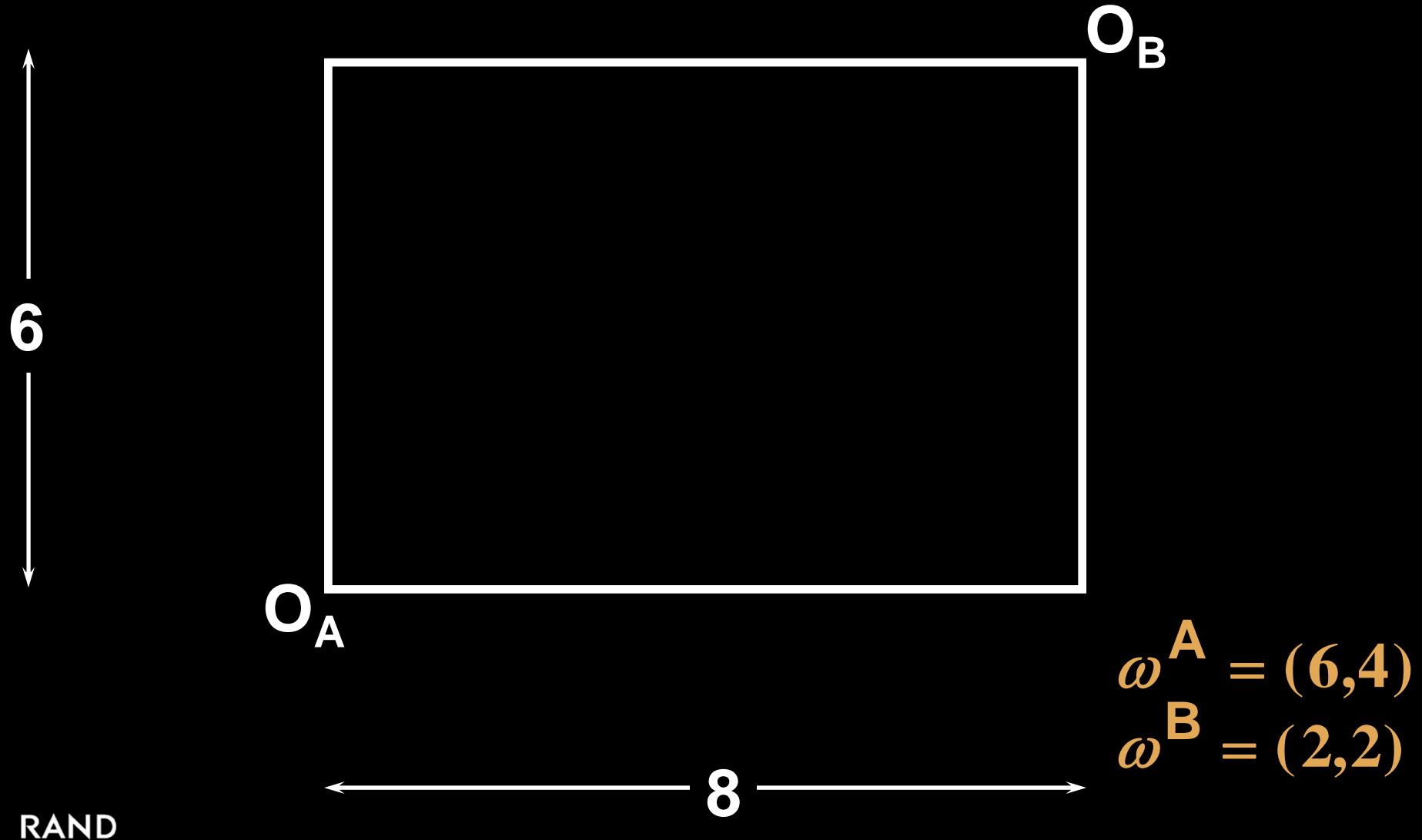
- **People have stable preferences**
- **People prefer having more to having less**
- **They act according to their preferences and the best information they have when they make a decision**
- **Observed outcomes always reflect preferences as a first order effect (selection bias in empirical analysis)**

# *A Brief Academic Detour*

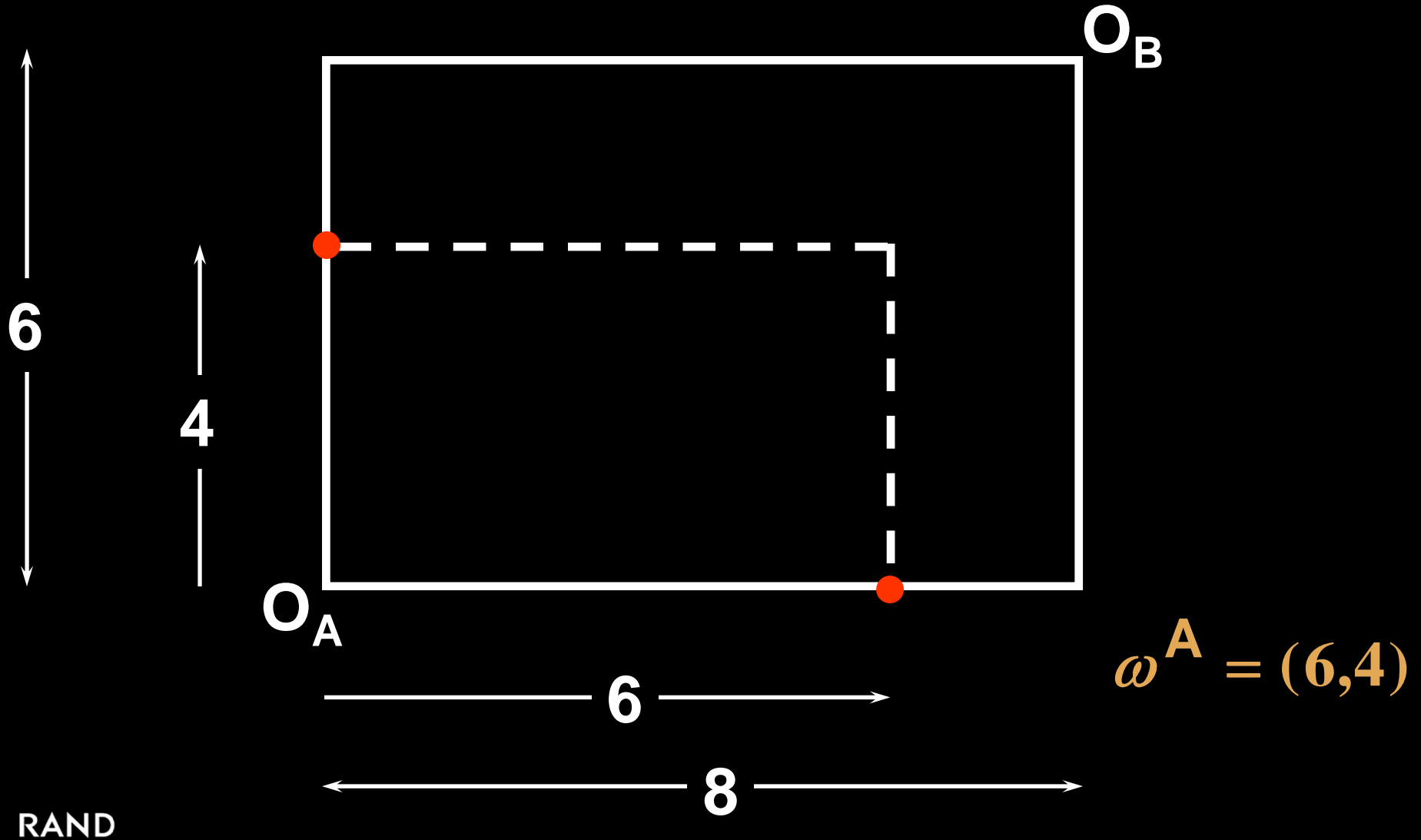
- **Economics concerned with efficiency**
  - **Technical term: Pareto optimality**
- **Economics only concerned with how to get to an optimal allocation given initial endowments and preferences**



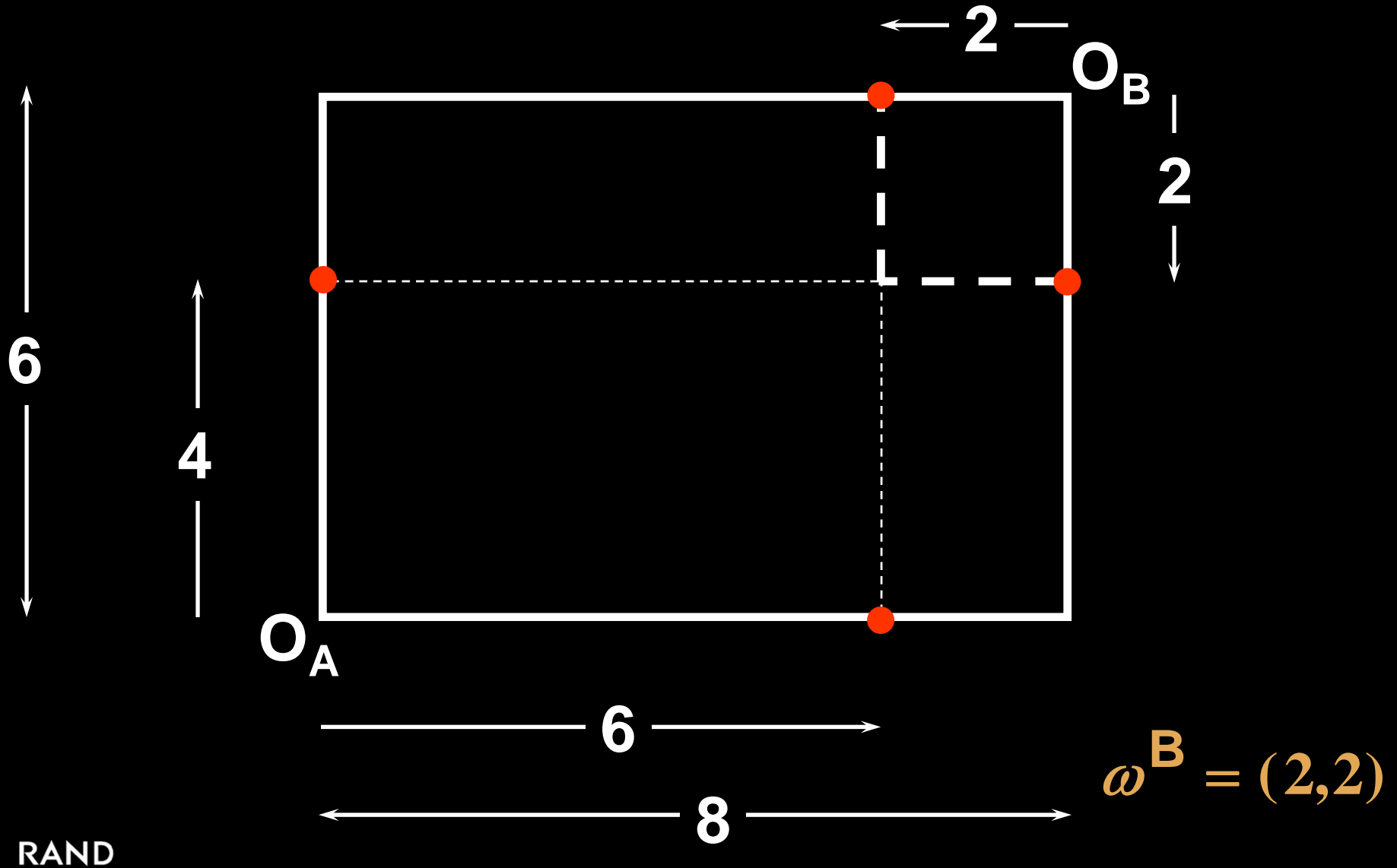
# *Two consumers split total available resources*



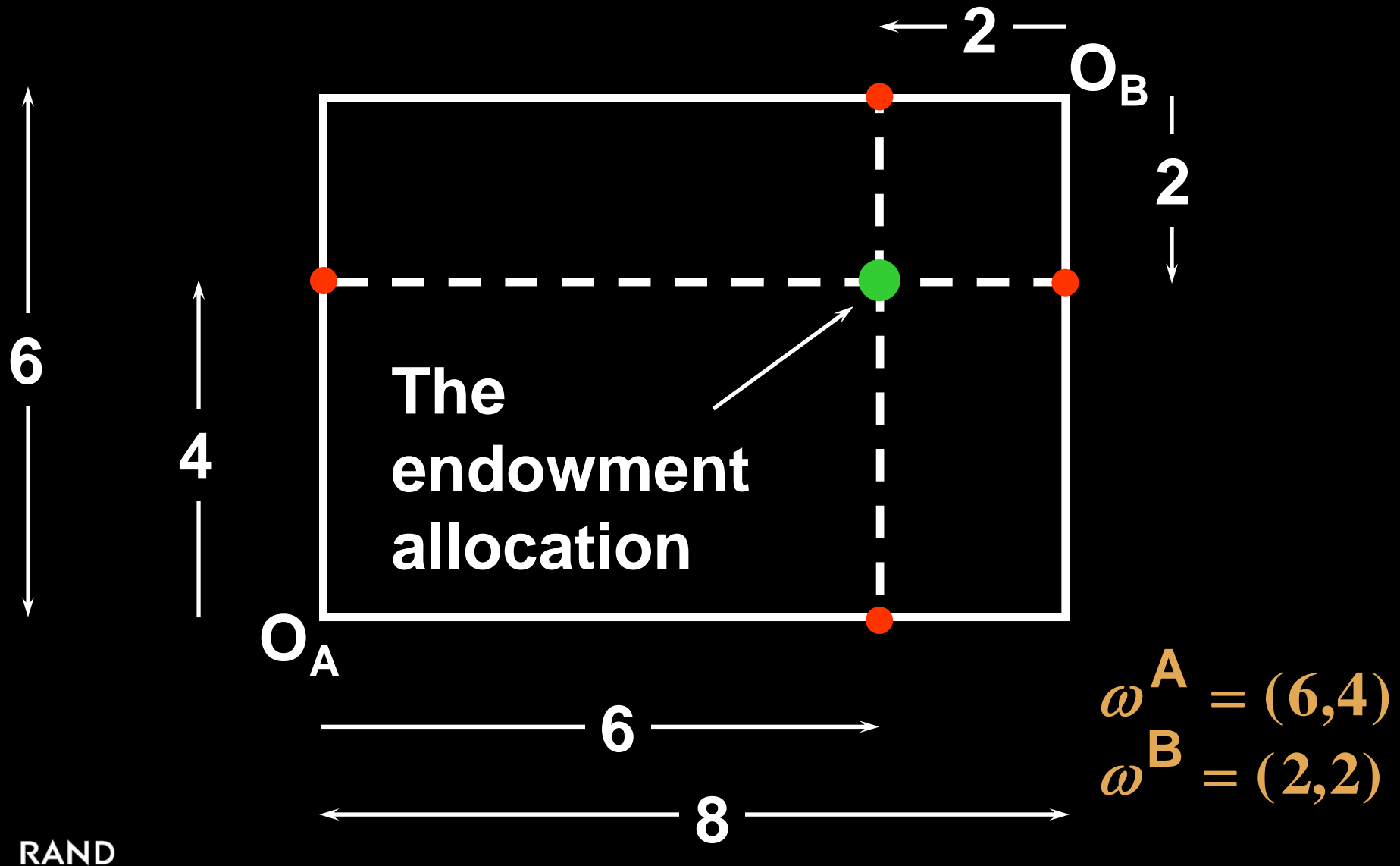
# The Endowment Allocation



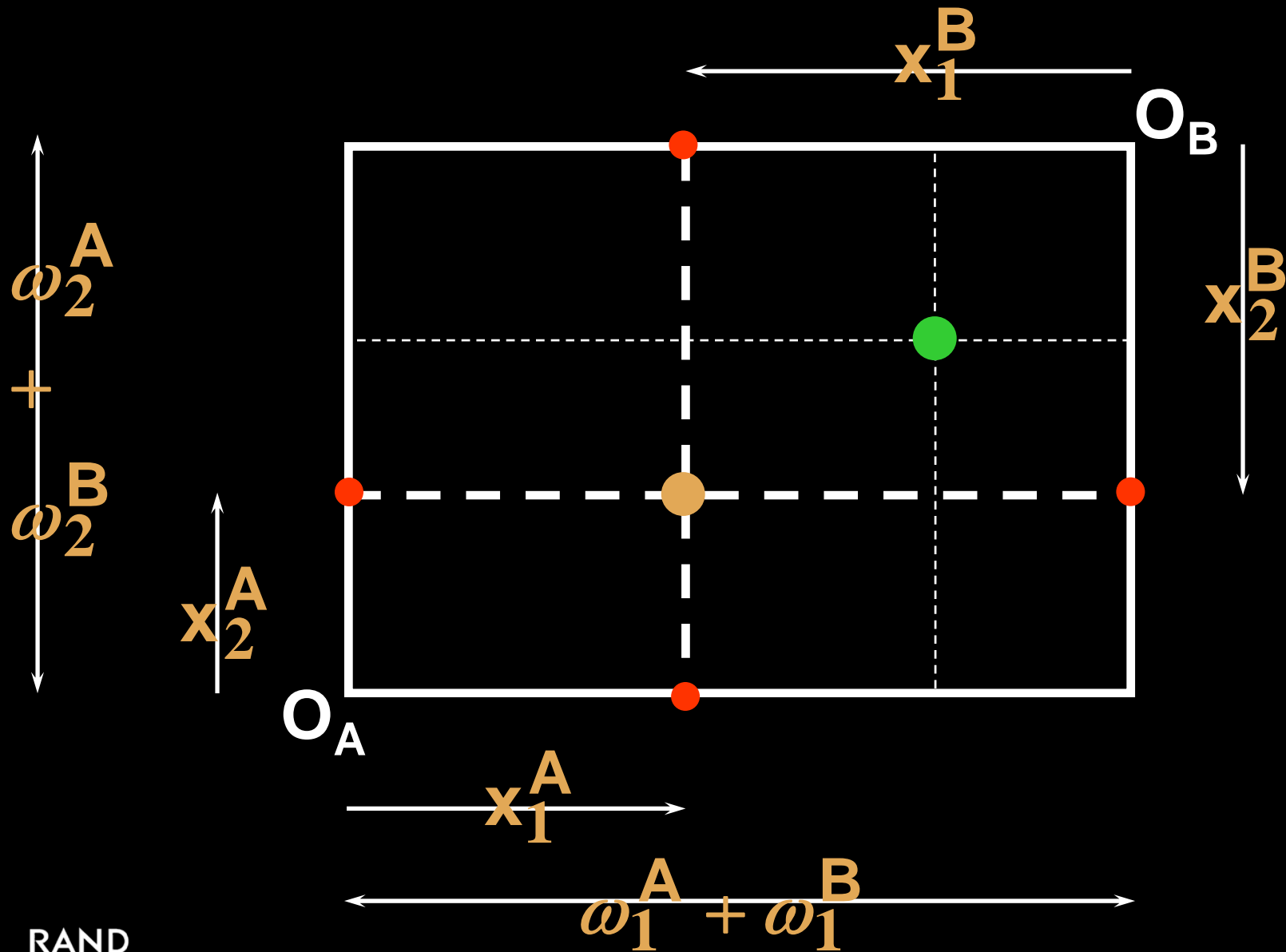
# The Endowment Allocation



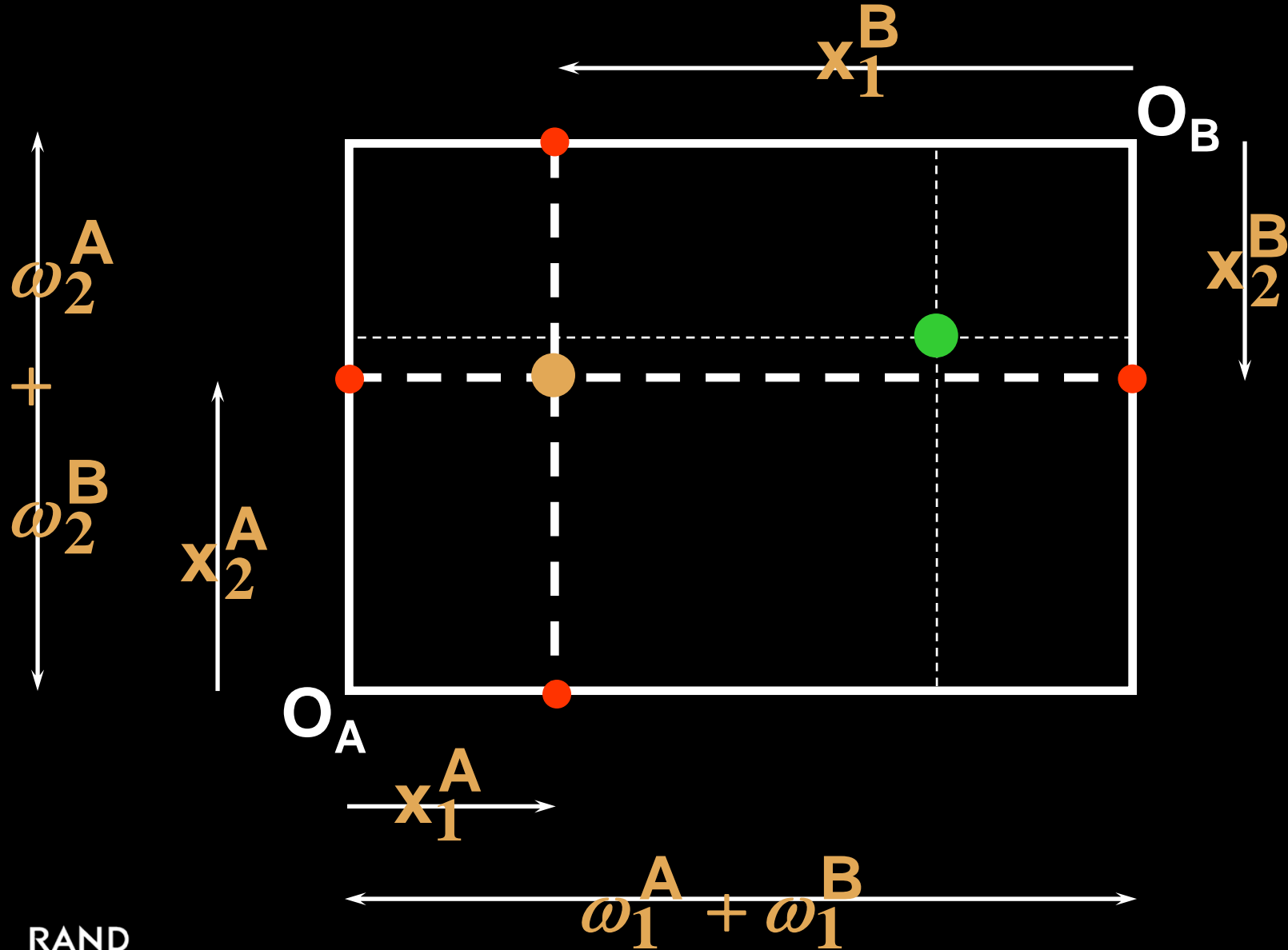
# The Endowment Allocation



# Feasible Reallocations



# Feasible Re-allocations



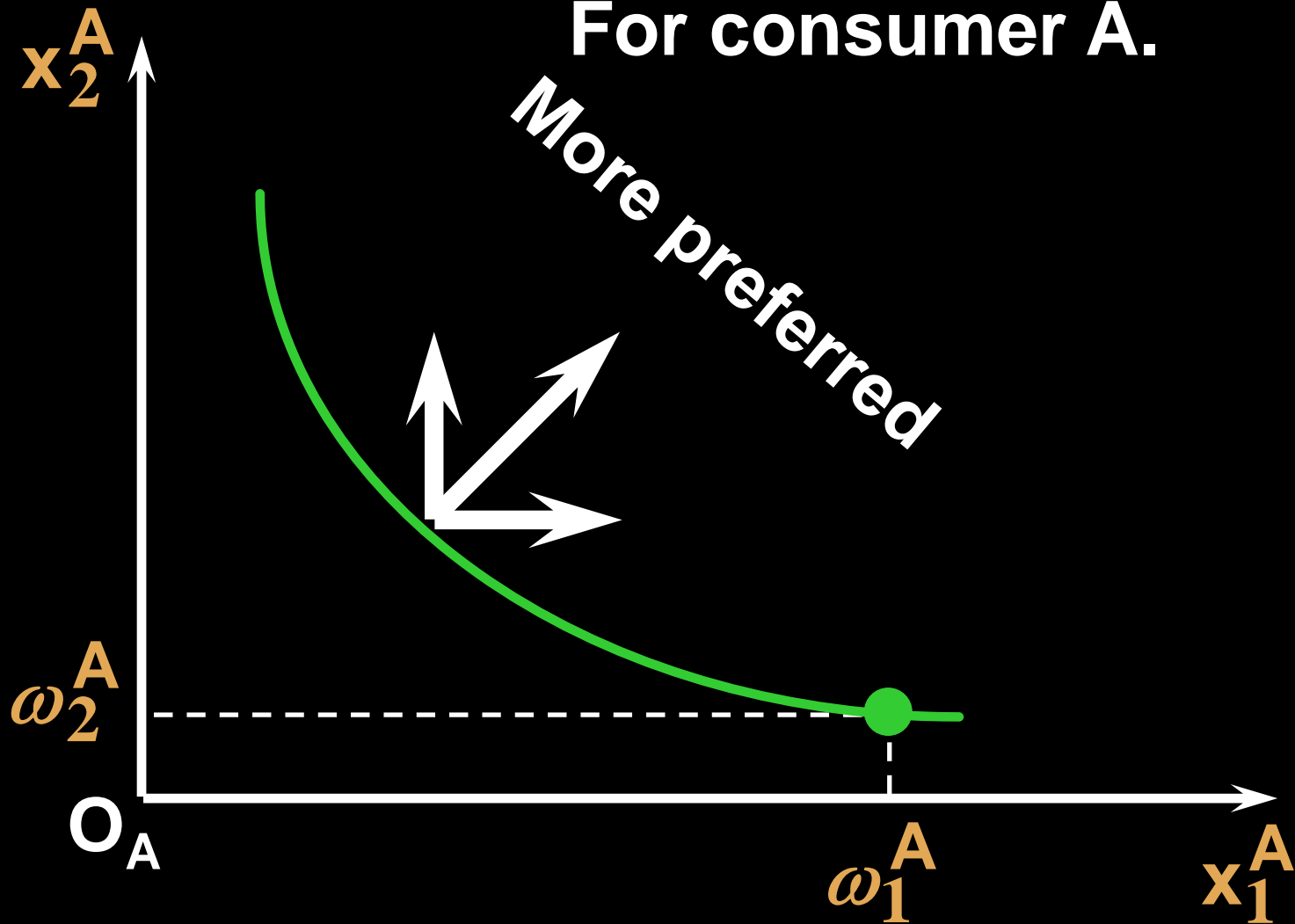
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# *Feasible Re-allocations*

- **All points in the box, including the boundary, represent feasible allocations of the combined endowments.**
- **Which allocations make both consumers better off?**
- **Which cannot be achieved with voluntary cooperation?**

# Adding Preferences to the Box

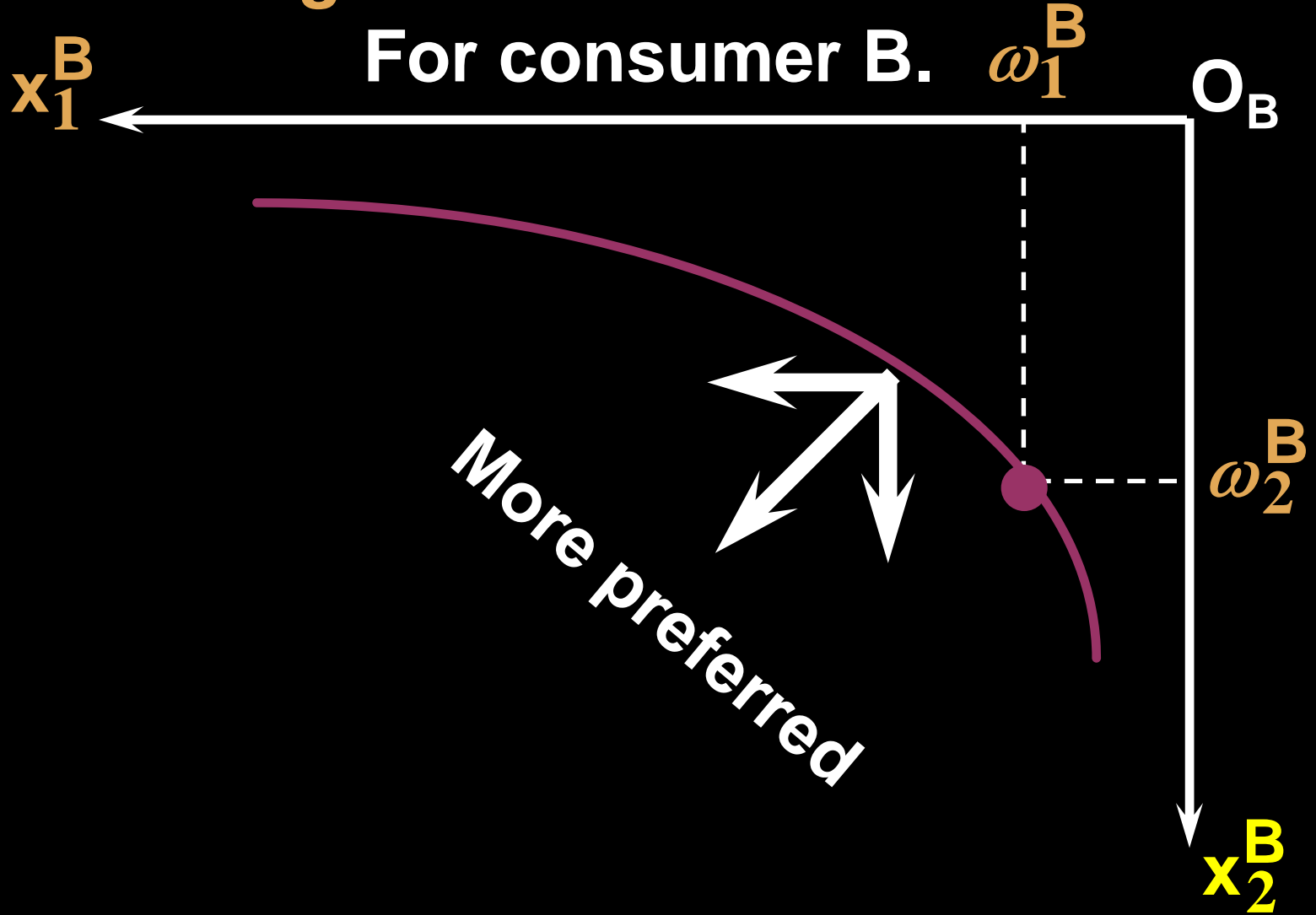
For consumer A.





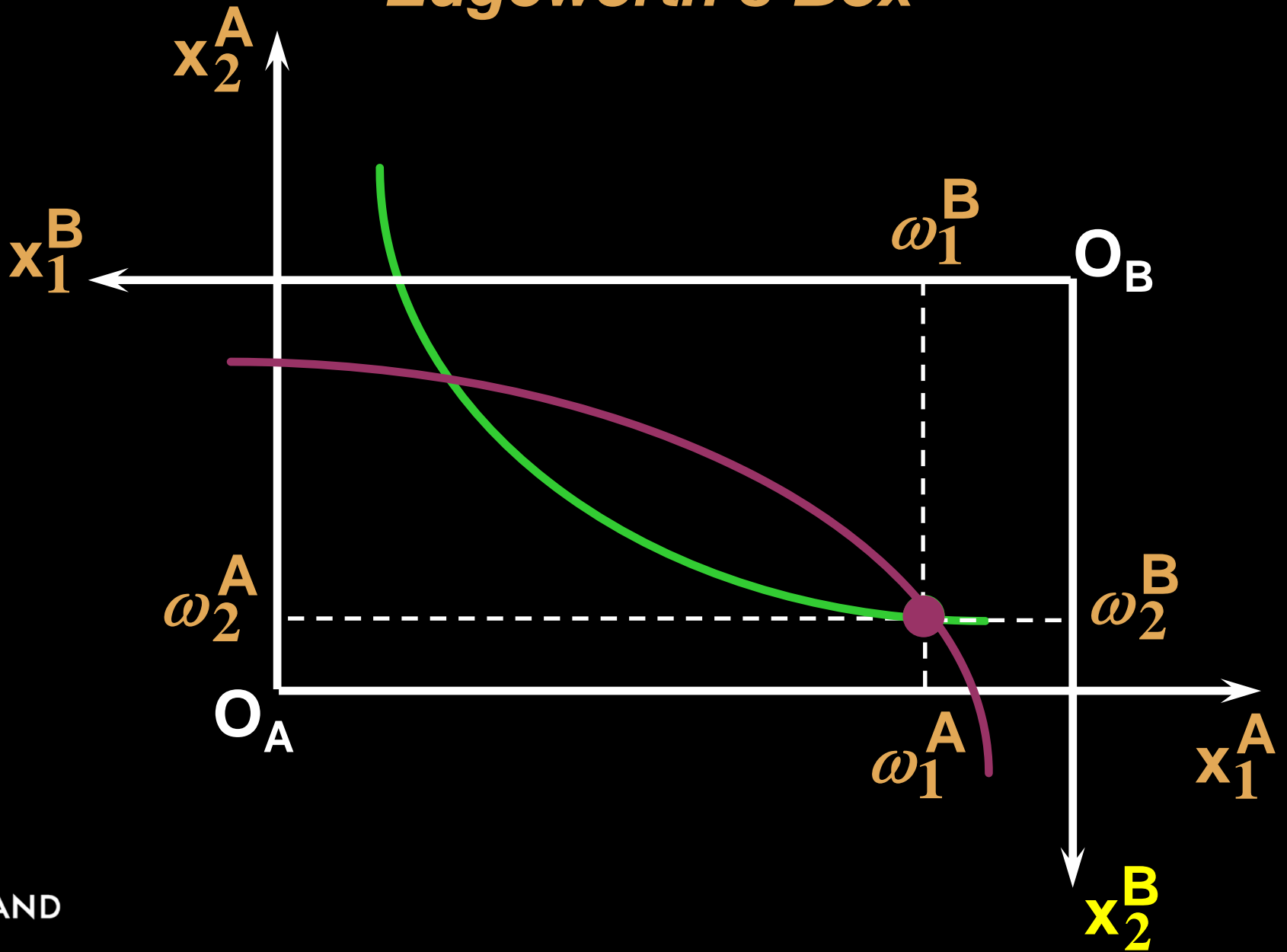
# Adding Preferences to the Box

For consumer B.



More preferred

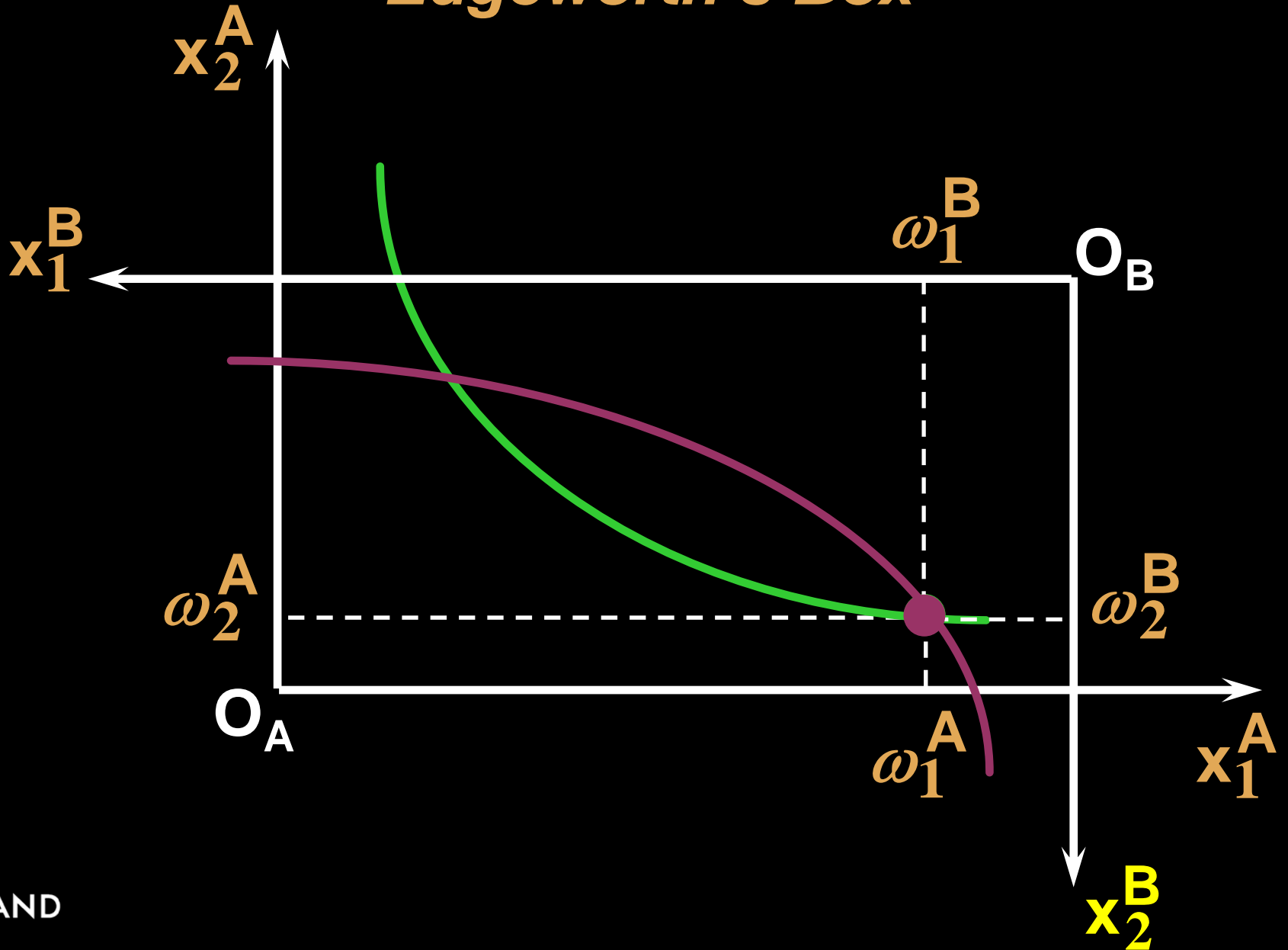
# Edgeworth's Box



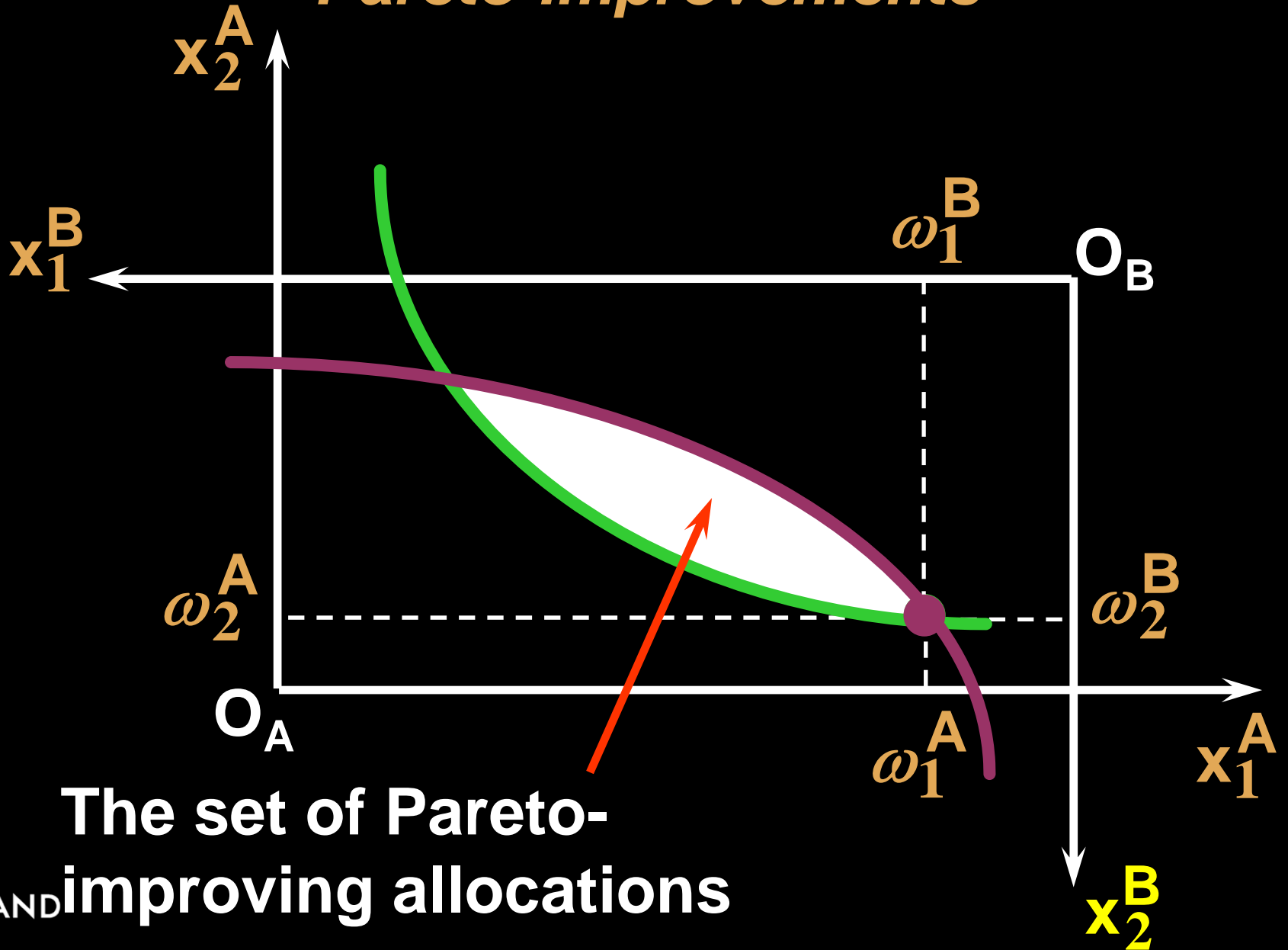
# *Pareto-Improvement*

- An allocation of the endowment that improves the welfare of a consumer without reducing the welfare of another is a **Pareto-improving allocation**.
- Example: Left turn and blocked intersections
- Where are the Pareto-improving allocations?

# Edgeworth's Box



# Pareto-Improvements



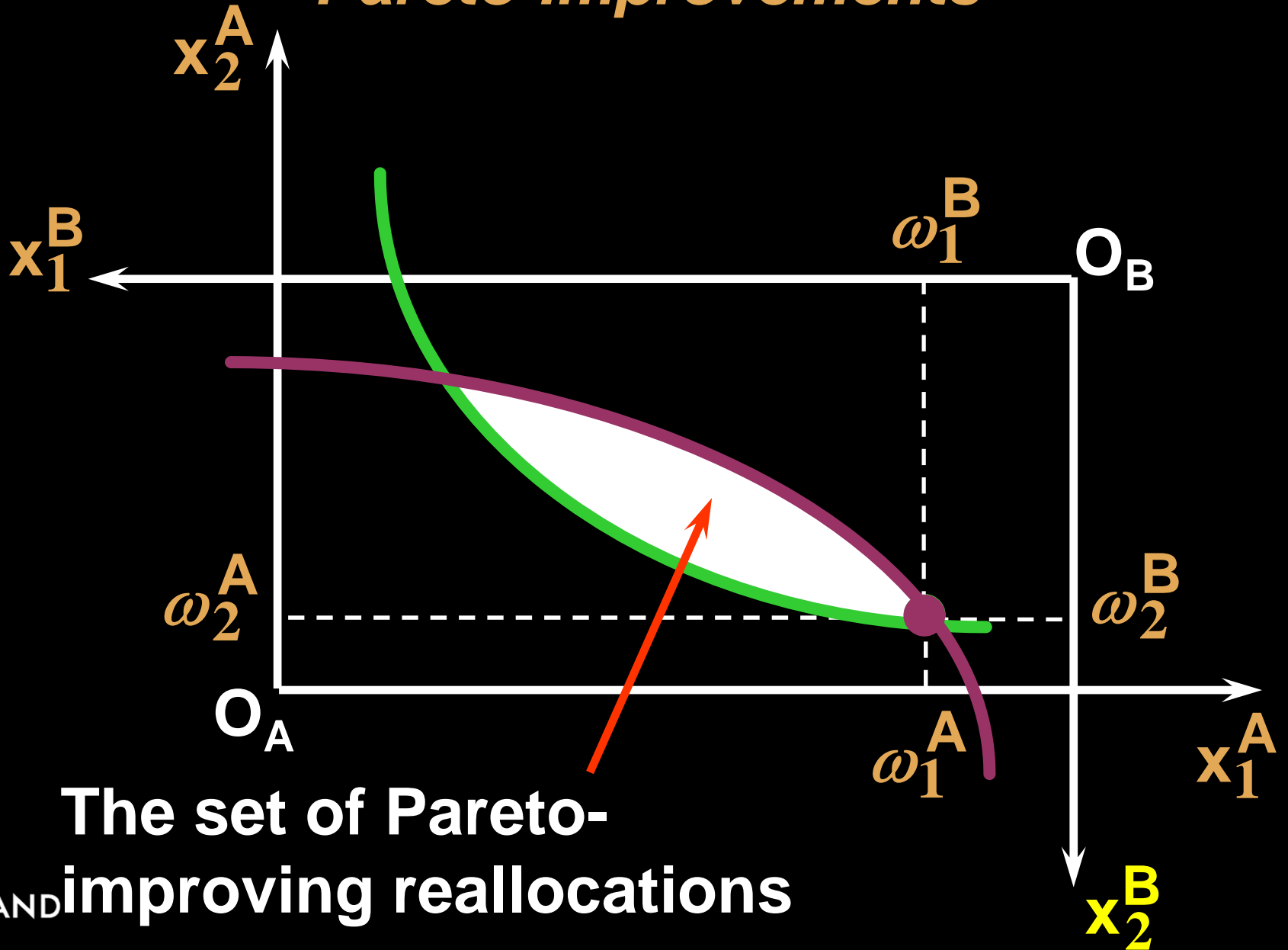
The set of Pareto-improving allocations

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# *Pareto-Improvements*

- **Since each consumer can refuse to trade, the only possible outcomes from exchange (i.e. voluntary cooperation) are Pareto-improving allocations.**
- **But which particular Pareto-improving allocation will be the outcome of trade?**

# Pareto-Improvements

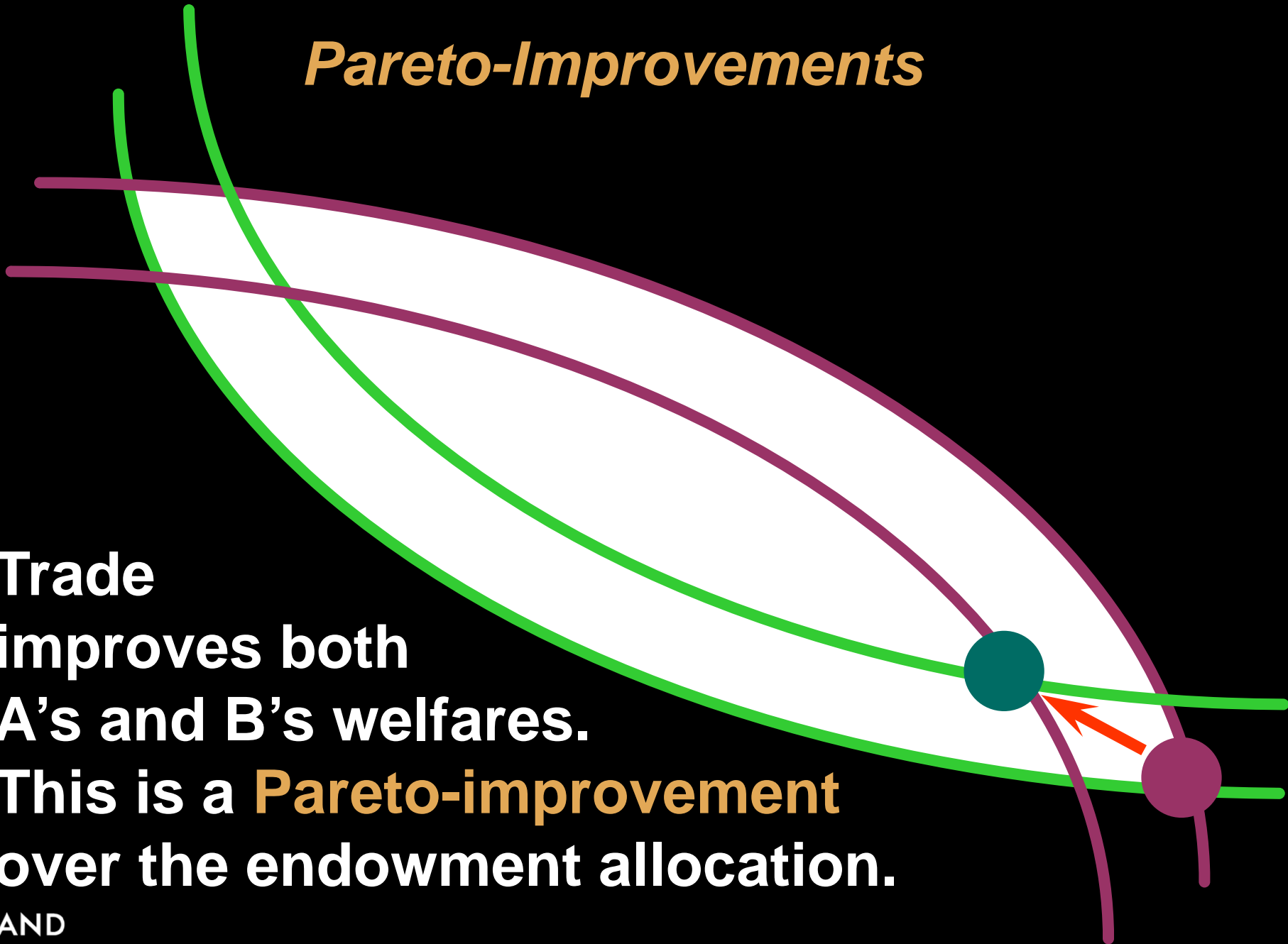


The set of Pareto-improving reallocations

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# *Pareto-Improvements*

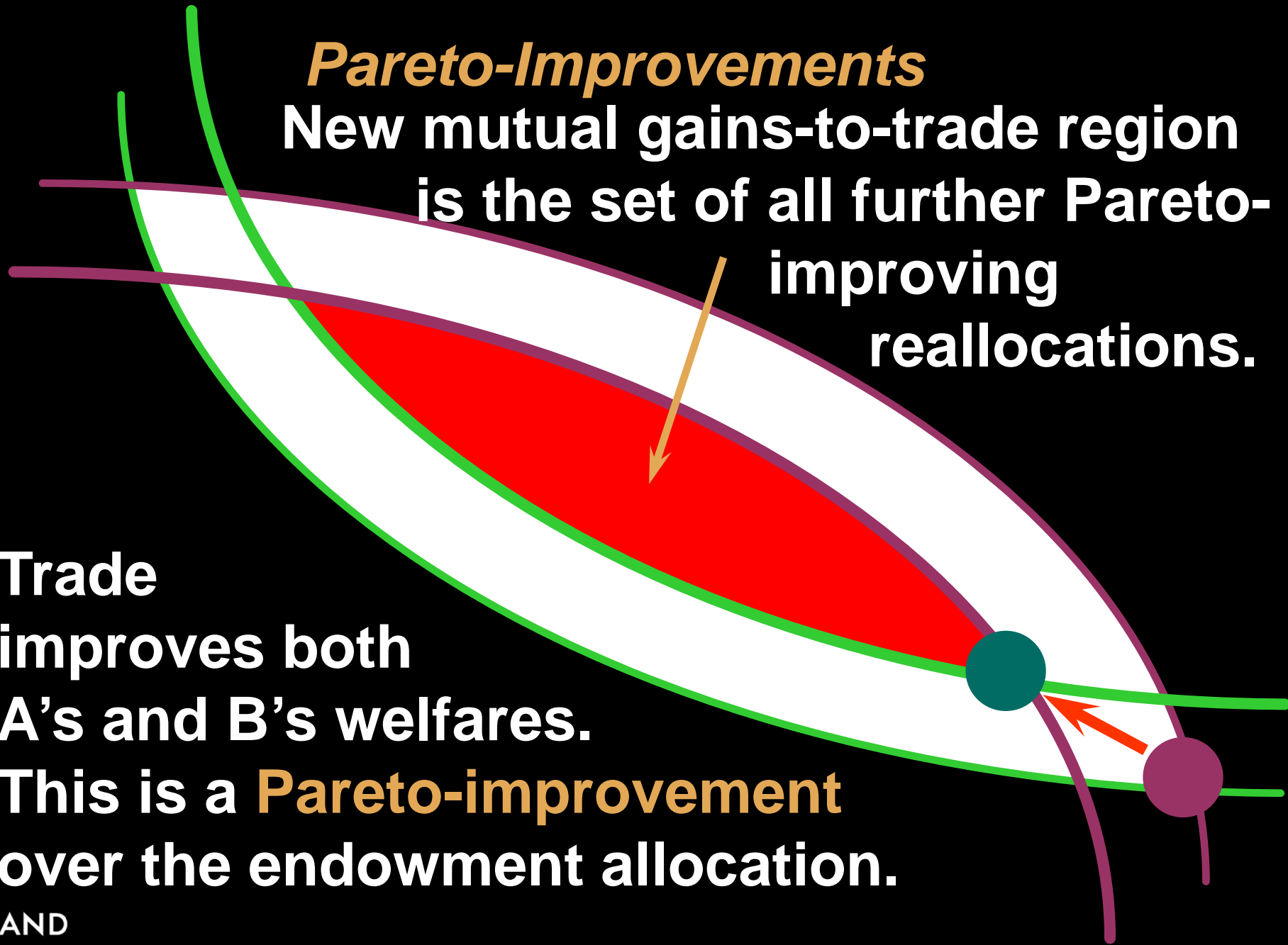
Trade improves both A's and B's welfares. This is a **Pareto-improvement** over the endowment allocation.





***Pareto-Improvements***  
New mutual gains-to-trade region  
is the set of all further Pareto-  
improving  
reallocations.

Trade  
improves both  
A's and B's welfares.  
This is a **Pareto-improvement**  
over the endowment allocation.



# *Pareto-Improvements*

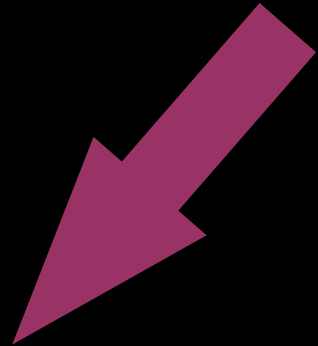
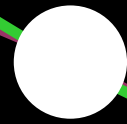
**Further trade cannot improve both A and B's welfares.**



*Pareto-Optimality*

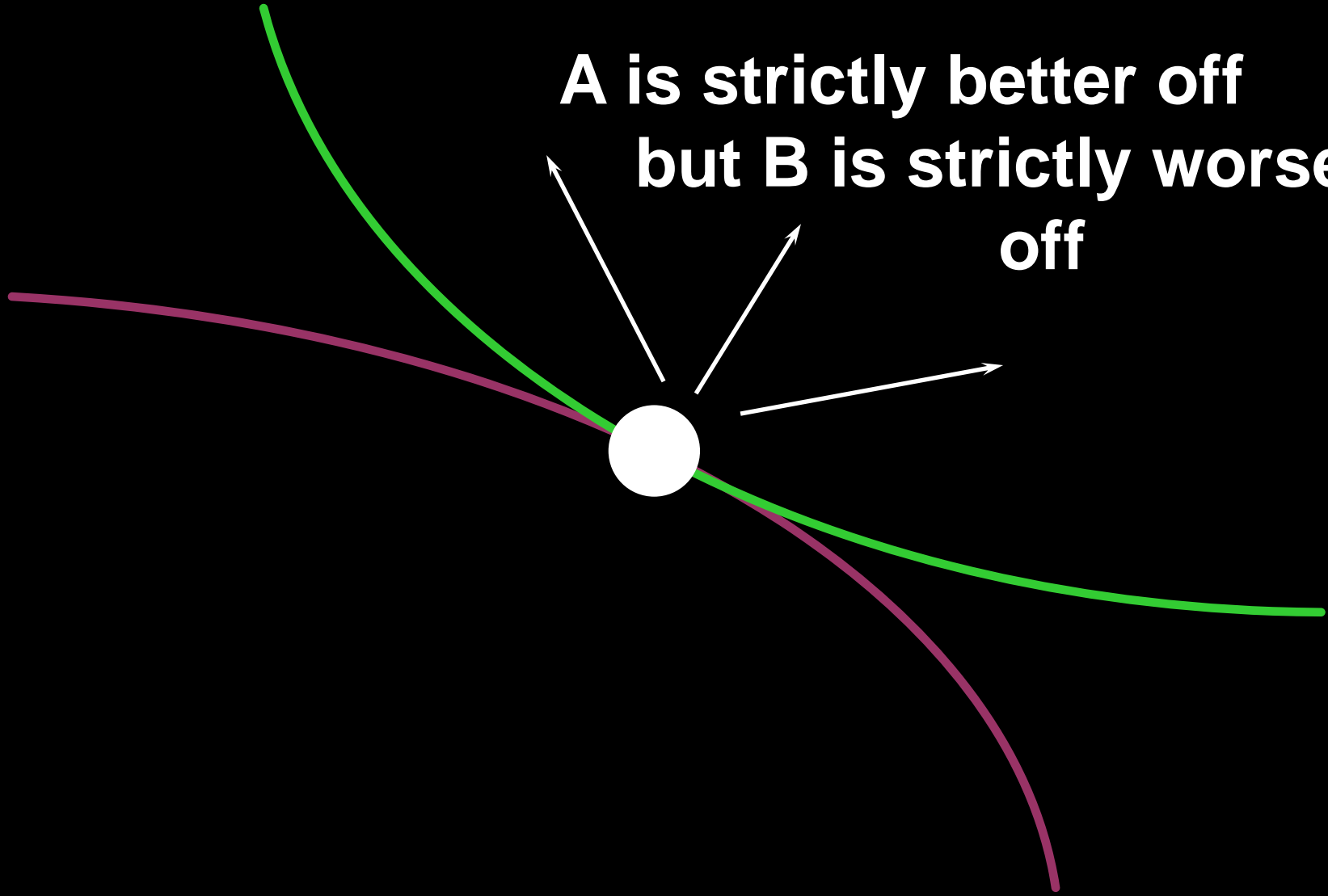
**Better for  
consumer A**

**Better for  
consumer B**



# *Pareto-Optimality*

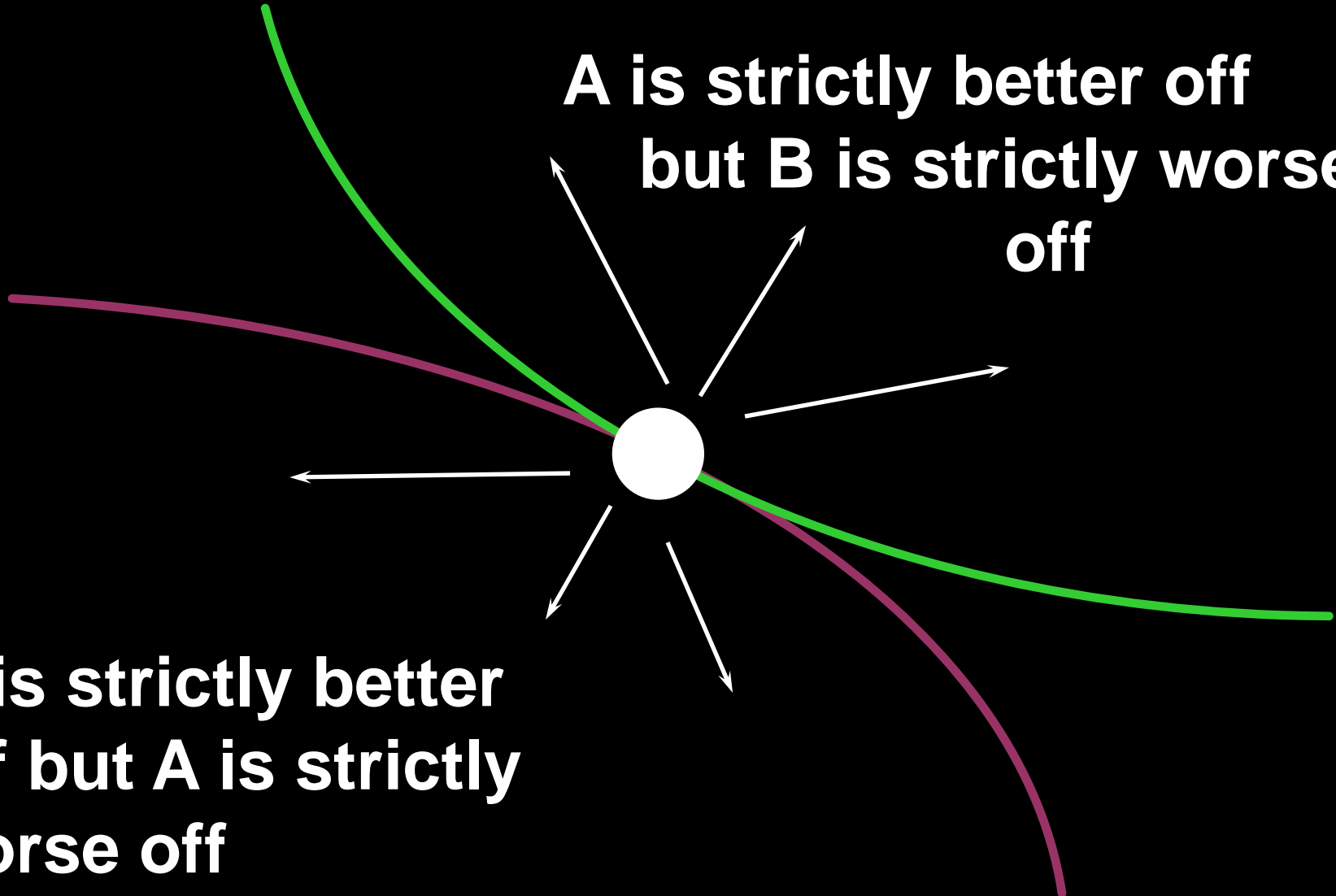
**A is strictly better off  
but B is strictly worse  
off**



# *Pareto-Optimality*

**A is strictly better off  
but B is strictly worse  
off**

**B is strictly better  
off but A is strictly  
worse off**

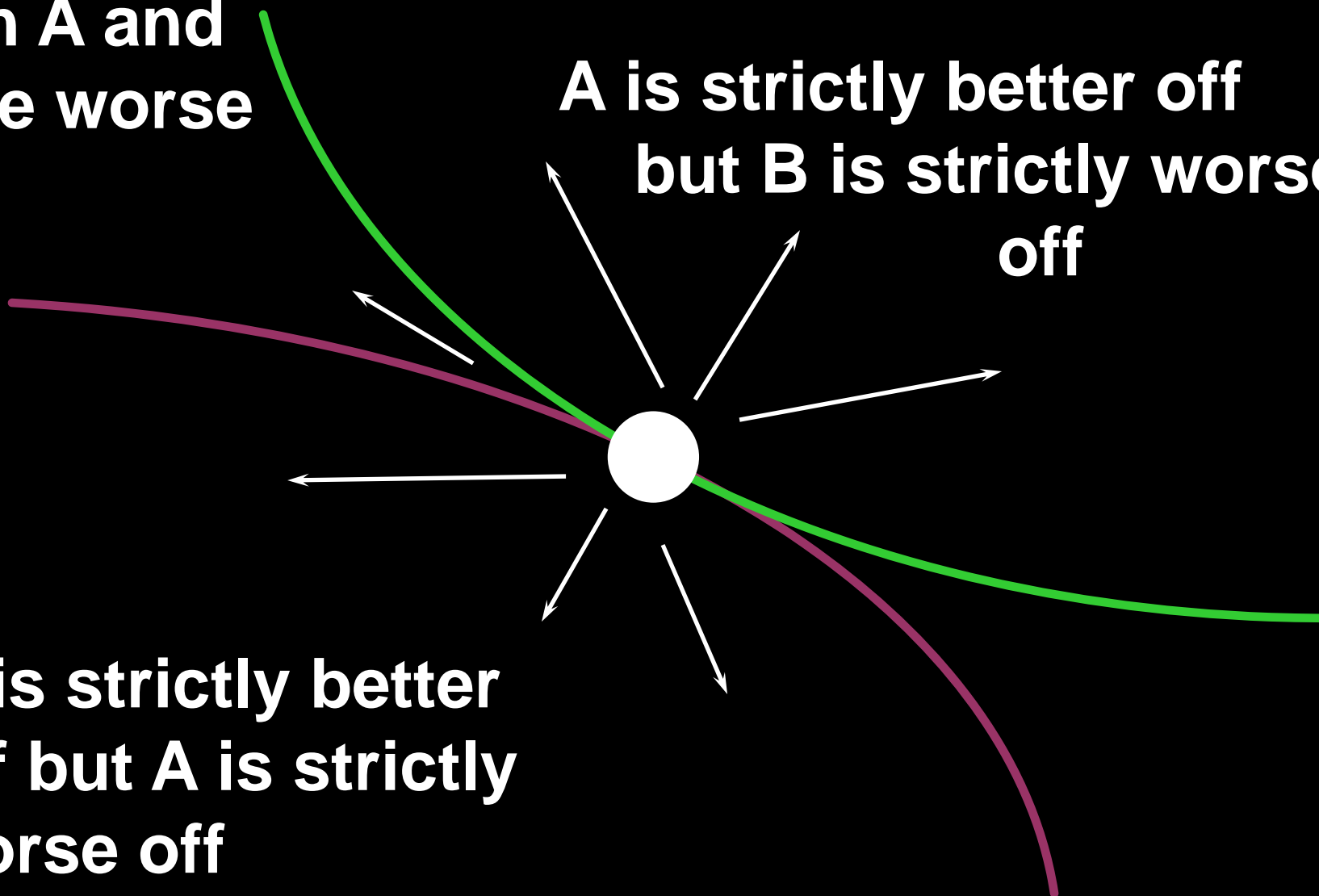


# *Pareto-Optimality*

**Both A and B are worse off**

**A is strictly better off  
but B is strictly worse off**

**B is strictly better off  
but A is strictly worse off**



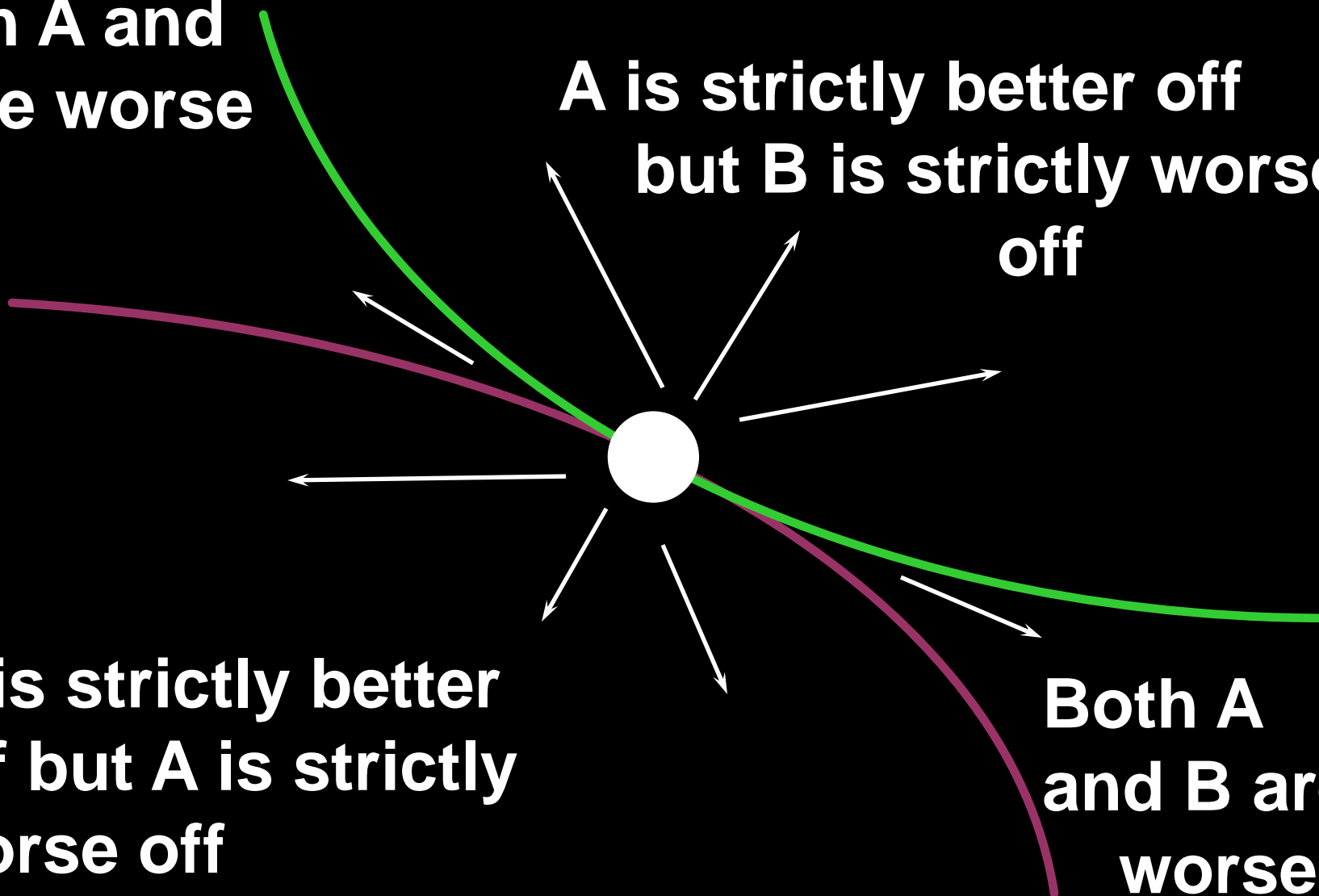
# *Pareto-Optimality*

**Both A and B are worse off**


**A is strictly better off but B is strictly worse off**

**B is strictly better off but A is strictly worse off**

**Both A and B are worse off**



# *Pareto-Optimality*



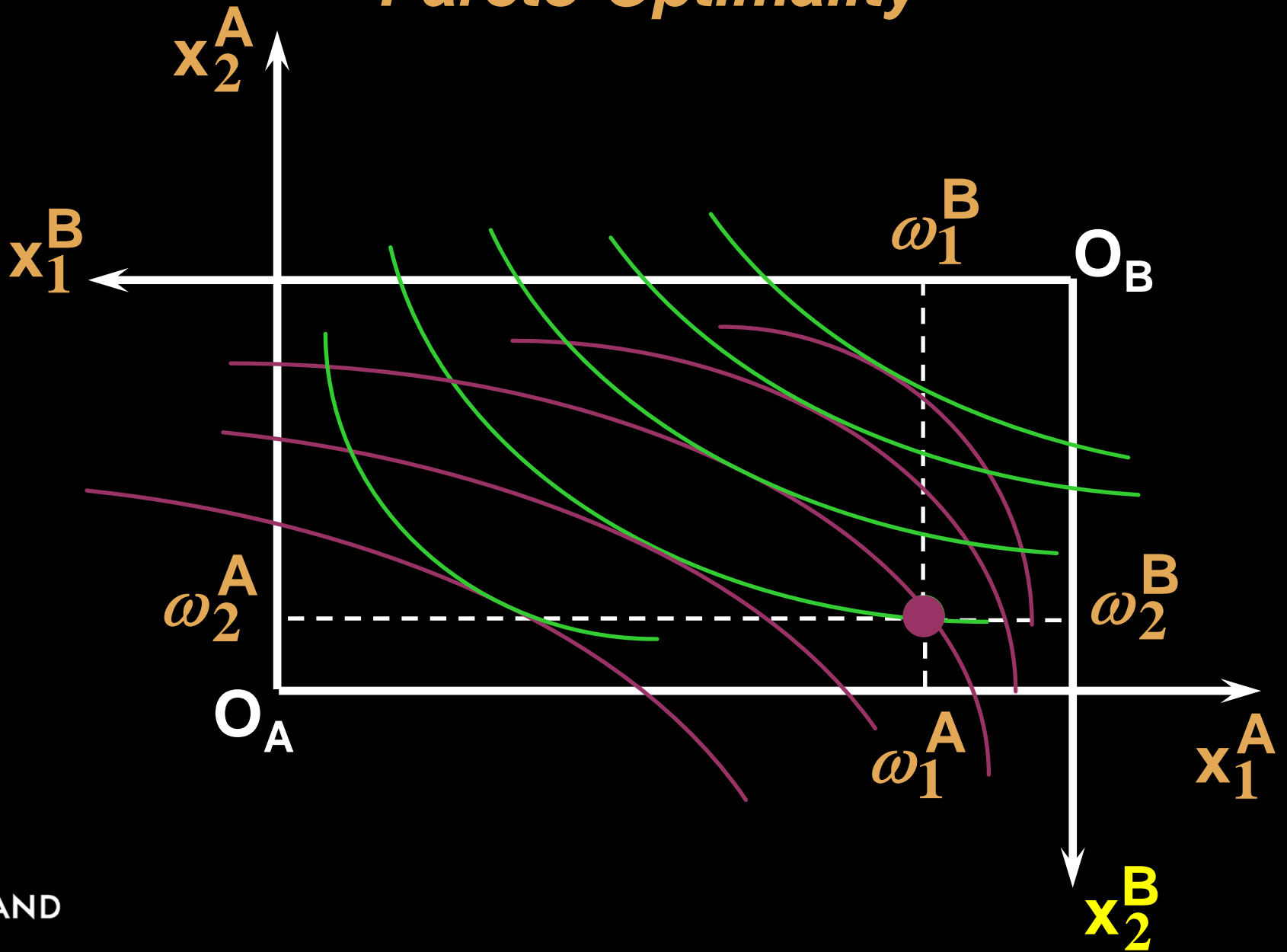
The allocation is **Pareto-optimal** since the only way one consumer's welfare can be increased is to decrease the welfare of the other consumer.



# *Pareto-Optimality*

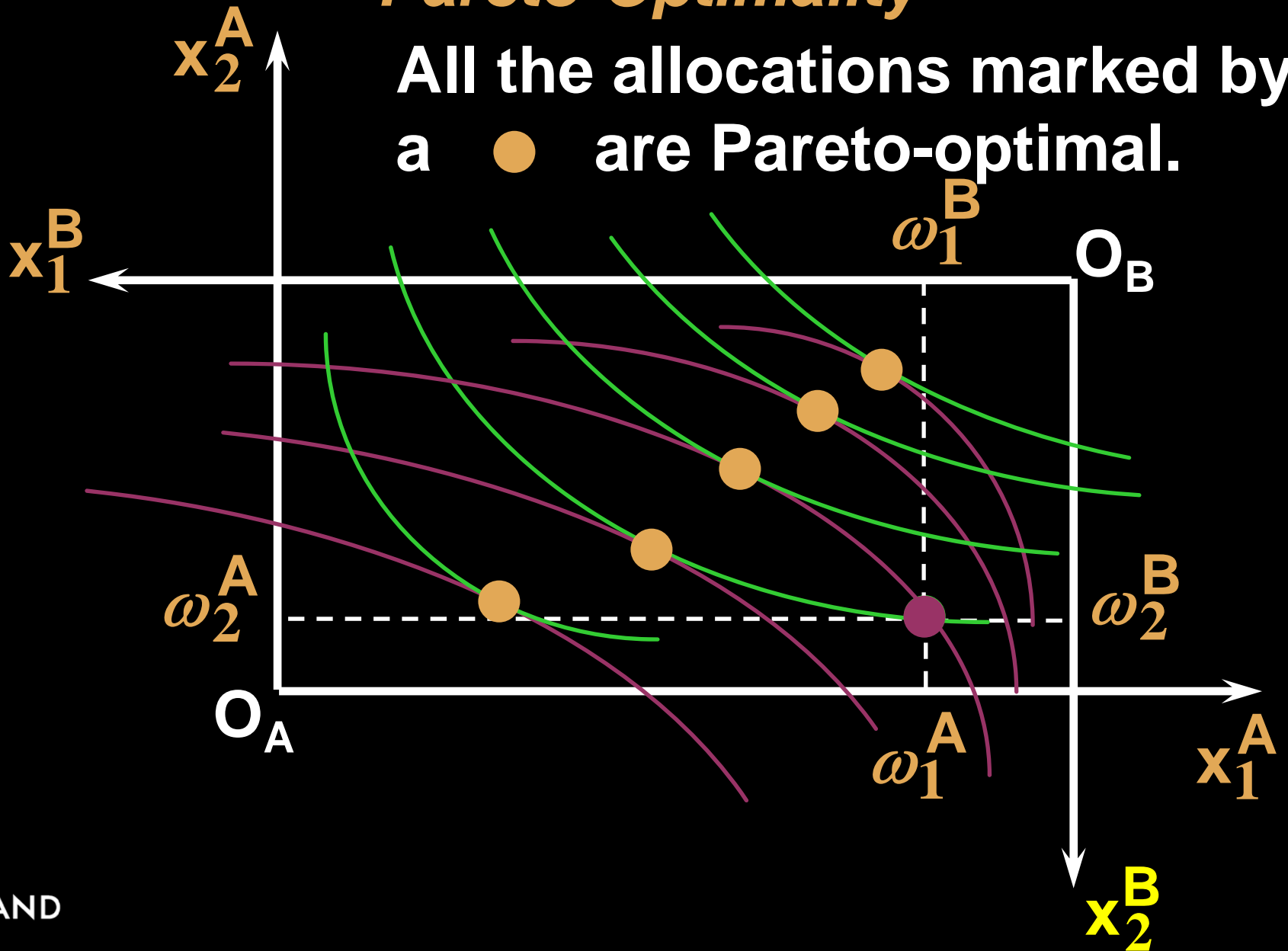
- Where are all of the Pareto-optimal allocations of the endowment?

# Pareto-Optimality



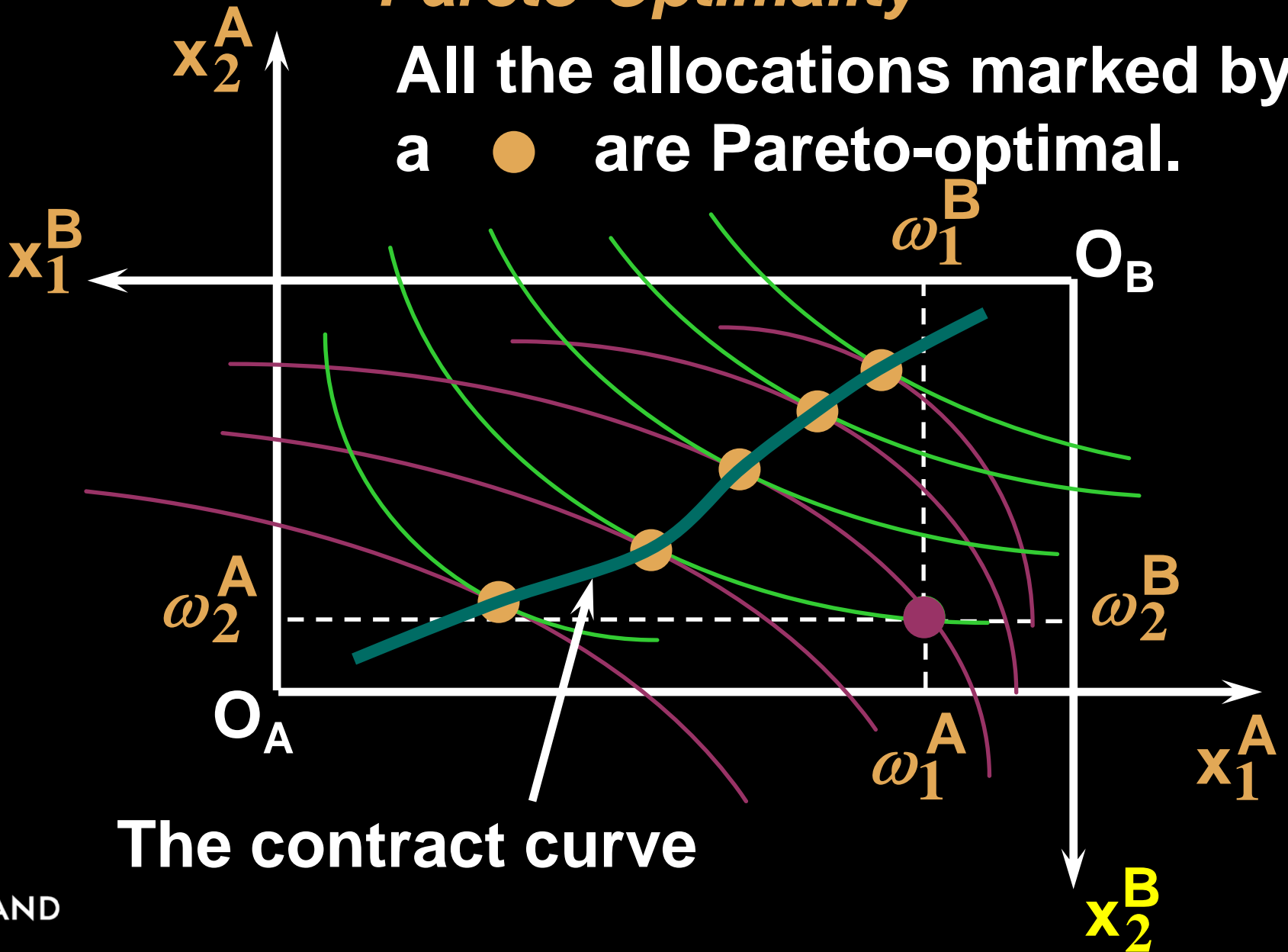
# Pareto-Optimality

All the allocations marked by a ● are Pareto-optimal.



# Pareto-Optimality

All the allocations marked by a ● are Pareto-optimal.



# ***Fundamental Theorem of Welfare Economics***

- **Trading in perfectly competitive markets implements a Pareto-optimal allocation of the economy's endowment.**
- **And the corrolary is that if markets fail, Pareto improvements are possible**

# ***Back to where we were 10 minutes ago: The Economic View***

- **Consumer sovereignty over outcomes**
  - **Central feature of the US institutional framework**
- **Only intervene if market failure**
  - **Externalities**
  - **Underprovision of public goods/services**
  - **Information problems**

# *Internal and External Costs*

- **Internal Costs**
  - Born by individuals and family members themselves
- **External Costs**
  - Costs imposed on others
  - Not necessarily financial (crime, drunk driving accidents)
- **If costs are internal, should we be concerned?**
  - Public health advocates would say yes
  - Economists might say no if there is no market failure

# *Externalities cause market failures*

- **Costs/benefits of an activity imposed on others, not necessarily financial (e.g. noise)**
- **Market failures that could affect physical activity**
  - **Social costs of driving not reflected in gas or car prices, cars make walking/biking unpleasant and dangerous**
  - **Social costs of sprawling environments not reflected in housing prices or the costs of such developments**



## *Externalities: Smoking*

- **Smoking bans to reduce externalities**
  - On nonsmokers
  - On smokers that wanted to quit or reduce smoking
- **Are there parallels for diet and physical activity?**

# *Externalities from inactivity/poor diet*

- **Often heard: Health care costs, lost productivity**
- **Red herring**
  - **Main burden of poor health borne by individuals themselves (internal costs), no externality**
  - **Only external costs from collectively financed health care, disability payment**
- **Not yet thought through, potentially more important:**
  - **Unconscious influences from other people's behavior or**
  - **environmental cues that raise the costs for individuals to adhere to (rational) decision**

# *Public Goods/Services*

- **Nobody can be excluded from public goods/services – therefore no individual incentives to provide them**
- **Are neighborhoods safe and pleasant for walking/biking to school, store, work?**
- **Are parks in good condition and accessible?**
- **No good private substitutes for safety, sidewalks, public facilities**
  - **In contrast to gyms for which there is a private market**

# *Information Problems*

- **If critical information is missing, low quality products dominate the market even if consumers prefer high quality products**
- **This type of market failure is well known to economists since Nobel Laureate George Akerlof's "lemon" paper**
- **When informational problems are sufficiently severe, regulation is needed for an efficiently working market.**
- **Reason for disclosure regulations for real estate, cars, etc.**

# *Information and Eating Out*

- **Without information about nutritional content at the point of consumption, competition is on the dimensions that consumers can evaluate easily:**
  - price, amount, and taste
- **Information issues less obvious for physical activity**

## *So far*

- **Economics concerned with distribution of costs/benefits, important complement to public health view**
- **Market failures necessary to justify interventions**
- **Efficiency argument (Pareto optimality)**
- **Redistribution of initial endowments (“fairness”?) a political, not an economic question**

## *So far*

- **Externalities and underprovision of public goods may be market failures that reduce physical activity below socially optimal levels**
- **Unclear about role of externalities in dietary patterns (environmental cues and other people's behavior)**

# *Limitations and The Future*

- **Fixed preferences?**
- **Unconscious influences from other people's behavior**
- **Environmental cues that raise the costs for individuals to adhere to (rational) decision**
- **Need to integrate new insights from psychology and economics, current perspectives too narrow**



# *Conclusion*

- **Economics and public health have different philosophical underpinnings**
- **They may create seemingly contradictions, but not necessarily**
- **Interventions may be most successful and politically sustainable when public health and economic perspectives coincide**
- **Often that just requires a slight reframing of the issues**